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Original Articles.

THE TREATMENT OF TUBERCULOSIS WITH TUBERCULOCIDIN.

By PROFESSOR E. KLEBS.

IN consequence of my earlier publication in the *Deutsche Medisinische Wochensehrift*, 1891 No. 45, a considerable number of physicians as well as myself have made searching experiments with Tuberculocidin in tuberculous human beings. I will now make a preliminary communication on the outcome of these investigations, including, further, some additional experience on the action of the remedy; the detailed treatise which is to contain all the cases will require a still longer time as it seems desirable to give in this the whole of the particulars, and where possible, to observe a number of cases for a prolonged period.

In the first place observations may be made

On the Preparation and Activity of Tuberculocidin,

which recently has been exclusively employed. As I have intimated in the paper referred to above, it can be prepared in various ways but it is a common feature of all the methods that the substances precipitated from crude Tuberculin by platinum chloride and the so-called alkaloidal re-agents contain the injurious substances of the remedy, while the albumose, remaining under this treatment in solution, which can be thrown down and purified by alcohol, forms the remedial agent of the crude Tuberculin.

This substance or albumose is now prepared on the large scale in the Farbwerken vorm. Meister Lucius and Brüning in Hoechst O. M., and the activity of every specimen obtained in this way is tested by me on animals made tuberculous. Since, in so doing, much higher doses are employed than is ever the case with human beings, a certain guarantee is afforded, that the preparation is always of uniform strength, and, particularly, free from the dangerous by-effects on the heart which especially constitute the danger of crude Tuberculin. I will only remark here, that doses of this remedy which amount to 1/5000th of the body-weight, corresponding in human beings of 110 lbs weight to 2½ drachms, should produce in tuberculous guinea-pigs a rise in the temperature of at most ½° C. I have repeatedly observed that such preparations in doses of 1/10th—1/5th grain produce no appreciable rise of temperature in tuberculous persons. This preparation brings about no disturbance in the evolution of heat by healthy animals and is altogether free from the action on the heart which is peculiar to crude Tuberculin as well as to the substances thrown down from it by platinic and other salts.

The action of the latter, being as kymographic experiments teach, directly exerted on the heart induces a profound fall of blood pressure and immediately through this may bring about a fatal issue.

Besides this however, some influence appears to be exerted upon the composition of the blood particularly upon the physical properties of the red blood corpuscles; these become adhesive and therefore the more readily give rise to congestion and hæmorrhage at such places where the circulation is already defective, as in the neighbourhood of the tuberculous tissues. In this way may be probably explained the so called local re-action which the crude Tuberculin produces in the parts immediately adjacent to the tuberculous tissue. The widely accepted but entirely unexplained attraction of Tuberculin to the tuberculous tissue should give place to this much simpler hypothesis.

Further, among the injurious effects must be reckoned also an irritant action particularly upon the leucocytes. According as the latter are more or less susceptible to injurious substances of crude Tuberculin, inflammatory swellings manifest themselves in addition to the congestion.

All these injurious effects, to which in human beings a long list of direct lesions of the nervous system have to be added, are avoided by the application of the purified remedial albumose "Alexin" or Tuberculocidin. Very large doses of the latter, up to 1/3rd grain *pro die* are of course followed by disturbances in many patients specially manifested in a more or less troublesome feeling of weariness as well as further in emaciation in the earlier stages of the treatment; this however in favourable cases is made up later, and indeed, often gives place to a very evident gain of weight.

From this therefore it is seen, that Tuberculocidin though free from the dangerous by-effects of crude Tuberculin, can by no means be regarded as an indifferent substance. Further it is also clear that it is not merely a diluted Tuberculin: Tuberculocidin constitutes abour 2½ per cent of the crude Tuberculin and if it were only a dilution of the latter, volumes of the two bearing the respective proportions to one another 40 : 1 should produce the same action. As the quantity of 1½ grain Tuberculocidin attaind after a few doses in tuberculous human beings produces no fever, whilst crude Tuberculin in these in a dose of 1/25th grain often brings about a very considerable rise of temperature as Dr. Robert Koch, among others, has established by alternate injection of the two substances, it is clear that

The Action of Tuberculocidin and Tuberculin is quite distinct.

As to the nature of these injurious substances the investigations are not yet completed; they have first to be prepared in a pure state for which purpose large quantities are necessary and are still being accumulated. Yet, it can be said already, that peculiar alkaloids which can be obtained in combination with

metallic salts are present only in the substances removed from crude Tuberculin by alcohol. The injurious bodies which are thrown down by the so-called alkaloidal re-agents appear to belong to the class of albumoses and probably products of the transformation of the mycoroptein while the remedial substance, Tuberculocidin, is to be regarded as a secretion of the tubercle bacillus. This assumption explains the very significant fact, that after very large doses of Tuberculocidin, passing febrile attacks sometimes occur which, unlike the hectic and infectious fever, are without special disturbing effects, and, often, have entirely disappeared within an hour or so.

The explanation of this paradoxical behaviour is due to

The Action upon the Tubercle Bacillus

of the TC as I will call the substance according to the precedent of Dr. Koch. It has been now established by numerous medical observers, that after a few doses of TC there is in tuberculous human beings, at least under favourable conditions, a destruction of the tubercle bacillus. Mostly doses of 5—8 grains are necessary which mush be repeated four or five times. The tubercle bacilli which were until then powerfully developed and uniformly coloured without any trace of spore-like formation now assume a granular quality as they may be spontaneously recognised in the contents of old cavities. That this is not a case of spore formation as has been often assumed is evident from the irregularity of the grains. Indeed very frequently, in these degenerated forms one finds a considerable part of the tubercle bacillus empty and scarcely coloured whilst at the end individual grains or even a large portion of the contents is coloured red by fuchsin. When the disintegration is very rapid as I have seen it only after doses of 1/6th grain, these grains may be even free, they then occur partly in chains, partly isolated or in small groups like micrococci. That this is due to the action of the tuberculocidin is seen from the fact repeatedly observed, that it often appears after a few injections, soon disappears after the discontinuance of the agent and again occurs when the injections are begun anew.

This change in the tubercle bacillus which can be regarded only as a direct effect of the TC gives perhaps a reason for the sudden rise of temperature previously mentioned as accompanying the disintegration of the tubercle bacillus. Since degenerative process takes place very rapidly, a large quantity of the injurious substances which produce fever are set free from the body of the bacilli, in the organism. We obtain the same result as when these substances have not been removed from the crude tuberculin. But this febrile process is very much more favourable as its effects pass off with extraordinary rapidity. Indeed it does not all occur on the further use of the remedy which even in severe hectic fevers has a decided antifebrile action. The fluctuations of temperature in hectic fever amounting at first to 4° in the day cease to manifest themselves, while at the same time the general feeling is normal; the symptoms of exhaustion accompanying hectic fever often disappear suddenly as the temperature becomes normal.

The high doses necessary to bring about this result even in severe cases should not be used too long on account of a considerable decrease of weight and frequently considerable exhaustion. In such cases I adopt either complete pauses or give smaller daily doses. The recurrence of fever, which may be soon or late, necessitates a return to the large doses. In favourable cases there is no recurrence of fever, an evidence according to the investigations, of a far-reaching and often complete destruction of the tubercle bacilli.

In estimating the effect of the TC upon the bacilli it is important to bear in mind, that besides this direct action there is also an indirect one, depending upon a change in the organism inoculated or which at any rate may be assumed as possible. If large doses of TC be given to susceptible animals, particularly to guinea-pigs, some time before injection with tuberculous substance, there is always a delay in the development of tuberculosis. The TC therefore communicates a certain degree of

Immunity against Tuberculosis

though of an incomplete and transient nature. It is at present still questionable whether this effect is to be looked on as a direct consequence of the remedial agent, since the limits of time are not yet established, within which such an action takes place. According to my experience the effect is sufficient to prolong the course of the disease in a guinea-pig to at least double the time if a week before the tuberculous infection 8—15 grains of Tuberculin are injected. Whether the Tuberculin hangs about in the body so long or whether some effect is exerted throughout the substance of the body by it cannot be clearly decided and the solution of this question awaits further investigation. I regard it as probable, that the tuberculin already in the body directly acts upon the bacilli introduced later and at least as a preliminary theory the favourable action of TC is to be entirely ascribed to this destructive action against the tubercle bacillus. Of course, as I have previously observed, a disintegration and breaking down of the tuberculous tissue can be anatomically proved with great distinctness under the influence of the TC which especially takes the form of exudation into the diseased tissues. This process however, may be equally well due to the annihilation of the tubercle bacillus by the TC as to the influence of the latter upon the bodily tissuses. The former view is also to be preferred because the process mentioned is exclusively confined to those parts where the tubercle bacilli are present *vis* in the tuberculous tissue. As the bacilli deteriorate in activity, the natural curative action of the organism comes into play and this happens in the same way whether the death of the tubercle bacillus be brought about naturally or by artificial means.

In this theory of the action of Tuberculocidin it may seem striking why in all cases of tuberculosis

The Protective Influence of the Organism

does not come into play. To this it is to be observed, that as a matter of fact, the normal organism does possess bactericidal properties against the tubercle bacillus as against a long list of other microbes. I have been able to establish by a series of experiments on rabbits, that out of a definite number of active tubercle bacilli, which in pure culture are injected into the

circulation only a very few develope. In one such experiment out of 285 tubercle bacilli introduced into the circulation only 7 nodes developed *i.e.* one bacillus out of 40 if we assume, that only one bacillus is necessary to the development of each tubercle. In another case there were only 17 out of 1140 or one out of 67. In the first case therefore 87·55% and in the socond 98·5% of the bacilli perished in the organism. As the experiments in these cases extended over 93 days, the bacilli that did develop seem to have been severely injured ; it was especially note-worthy, that the spleen and other large abdominal glands were entirely free from tubercle which were only found in the lungs. It appears therefore, that these organs possess in variable degree the power of destroying the entire tubercle bacilli.

This observation leads us to a second important interpretation of

The Process of Tubercle Formation

which varies most widely from the view hitherto accepted. If, in cases where the natural protective action of the organism has time and opportunity to exert itself, only very few centres of tuberculisation form, and in these exclusively a further development of tubercle bacilli, though only to a restricted extent, takes place, we may conclude, almost directly, that the growth of tuberculous tissue favours the multiplication of the tubercle bacilli. We must therefore regard the formation of tuberculous tissue as that of a *nidus*—as a protective process for the invading bacilli analogous to the new tissue formed round the eggs of the gall-forming insects introduced into the tissues of the plant. In that, the cells of the tuberculous tissue, by no means dead but only indurated, envelope the tubercle bacilli, these are protected by them against the hostile substances which are brought to the tissues by the circulating blood. And this explains also the important fact already cited in my first communication, that the necrosis of the tissues leads to an increase in the tubercle bacilli, since their protection against the bactericidal substances is thereby broken down, and the dying tissue is itself a good culture medium for the bacilli contained in it.

With reference to

The Forms of the Tubercle Cells,

I wish here to state only in brief, that both the flat as well as the multinucleated giant cells of tubercle, originate from the epithelial as well as from the the connective tissue. Among the latter the vascular cells especially play a very important *rolé* in the formation of giant cells, and, it can be shown, that, in the spleen, multinucleated giant cells arise from the endothelial layer of the blood vessels, and, in the breaking-down process, remain in the circulation for a comparatively long period as the last remnants of the larger tubercle originally present. In tuberculous granulations, specially of the pericardium, with its highly vascular formations, it can be further proved, that giant cells arise often with very extensive proto-plasmic connections including even the original lumen of the vessel; these arise from the young growing endothelial cells and even from the already completely formed capillary vessel. The bright spot which is found in the interior of many tubercular giant cells is nothing but the remains of what was originally the lumen of a vessel.

So far my theory of the formation and cure of tubercle, which primarily base on the study of animals, has been much supported and confirmed by observations on human beings. I turn now to the brief consideration of the results which have been yielded by

The Treatment of Tuberculosis with TC

1. In respect to animals I have already demonstrated, as may be here once more recalled to mind, that a complete reduction of the highly developed tubercle takes place under the influence of TC. The remnants of the tuberculous tissue can be microscopically detected in such organs, which to the naked eye are entirely free from the disease, so that in this way proof is obtainable of the previously existent extensive morbid process. In these minute residues, the tubercle bacilli are entirely absent. Some other secondary alterations which accompany this reduction of tuberculosis, especially excessive development of the smooth mucsular fibres of the bronchi, and of the blood vessels are here only preliminarily mentioned. The cicatricial depressions, which, particularly in guinea-pigs, are sequalæ of recent tubercle in the liver, entirely disappear, and the organ regains its perfectly smooth surface. The spleen, which, as the result of tuberculous infection, undergoes enormous hyperplastic enlargement shrinks to its former volume ; but numerous adhesions of the organ to adjoining parts indicate the previous abnormal condition.

There now remained the further problem of discovering by experiments on animals the best method of attaining this result. In manifold parallel experiments which yielded perfectly similar results, it was established, that the TC proved the more active the earlier it is resorted to after the tuberculous infection. Here, of course by large quantities, 1 : 500 grammes of body-weight, which were injected in several doses simultaneously with the tuberculous infection, the development of the desease was not arrested, but greatly restricted so that the animals developed quite normally for more than three months, and when finally killed contained very few tubercles which were poor in bacilli. That this method, particularly in respect to the quantity of the remedy administered, can scarcely be carried out on human beings, is self-evident, since there is very seldom an opportunity of treating a quite recent infection. At any rate however, the experiment proves that the dose of 1/500th of the body-weight—which is enormous according to our present views—can be given without injury in the course of three or four days.

Of greater therapeutical importance are the experiments designed to determine

The smallest dose necessary.

to attain complete cure or at least a considerable breaking down of the diseased processes produced by inoculation. These showed, that this effect can be reached by about 25 daily injections of 1/7th grain per lb of body weight, even when begun only in the sixth week after infection. From this the quantity of TC necessary for the cure of tuberculosis in human beings may be deduceds if we assume that the relative proportions of the body-weight are the same in both cases. 1/7th grain of TC per lb of

bodyweight in guinea-pigs corresponds for a human-being of 110—126 lbs, to a daily dose of 15 and 17 grains. Numerous experiments in severe cases of phthisis have shown, that these doses are not quite reliable, but can be increased to ½ grain daily without harm. These are the maximum doses given by me, by which, even in very severe cases, though, of course, not invariably, the hectic fever could be subdued. As in animals 25—26 of such doses were necessary to a cure, one must also reckon on 25—50 doses (1/6th grain) of Tuberculocidin in the treatment of human cases, at least if at all severe. In slighter cases very lower doses were followed by considerable improvement, nay, in some instances, by complete cure.

(To be Continued).

TROPICAL DYSENTERY.

By J. C. DAY, M.B.

EVERY practitioner in tropical countries is familiar with this disease, and has no doubt often had to regret the want of interest shewn by his professional brethren in a disease, which may almost be termed as entirely tropical. We understand pretty well the external conditions, which bring about this disease, but the fact that whether dysentery is due to any particular micro-organism, or whether it is infectious, has not yet been definitely decided.

In its treatment too we are far from being perfect, each practitioner generally having some particular drug to which he pins his faith and accepts the results as the best, that can be done for his patient and is satisfied. Ipecacuanha has a large number of staunch adherents, yet how often do we find this utterly fail? Again we have lead and opium, carbolic acid, sulphate of copper, nitrate of silver and a hundred others all having their own adherents and all equally or more unsatisfactory.

My own opinion is, that we are as far off to-day from a rational mode of treating dysentery, as we were 50 years ago. I attribute this want of knowledge in regard to this disease as well as to most tropical diseases, to the great reluctance there is in India, where we have such great opportunities of studying these diseases, to medical men giving the rest of the profession the results of their experience and research.

We have few Medical Societies, where men can discuss these matters, and still less Medical Journals for recording the Annals of Medicine, and these appear to be very feebly supported. But to revert to my subject, up here in Assam, where I am, *malaria*, which subject I dealt with sometime ago, and dysentery, claim their victims by the thousands in spite of the presence amongst the people of medical men from the very best schools of medicine, I must say however, that I have obtained the most satisfactory results from Ipecacuanha, and instead of detailing a number of cases and taking up your valuable space unnecessarily, I would rather only mention the method I have adopted to investigate a generally accepted theory, that water is a very frequent vehicle for the introduction of dysentery. There are three different houses in my locality, in which the inmates number from 10 to 8, in each house. Cases of dysentery of a sporadic nature were occuring in each of them. In No. 1, house the residents introduced a filter, and at No. 2, I recommended the residents to use nothing but water that had been boiled, for drinking purposes, the residents of No. 3 used well water as drawn from the well. The result was, that house No. 3, which had ten occupants supplied five cases of dysentery during the month I had these places under observation. No. 2 house with eight occupants, supplied one case and No. 1, with nine occupants, two cases. This result was decidedly in favor of boiled water, and I consequently recommended the adoption of boiled water in all three houses, and I am glad to say with the happiest results. For the past two and half months no cases have appeared at any of these places. In connection with this, I may here quote a small extract from the *British Medical Journal*, for June 1878, "*For many years the hospital transport ships which return to France from Saigon have, say the French papers, paved the route with dead bodies.* The average deaths were twenty for each ship. The transport ship *Aveyron*, which arrived at Toulon, on April 20th, had not a single death; this result was due to the employment of the precaution against dysentery recommended by Dr. Dounon. This consisted in nothing else than the well known method of boiling the drinking water, so as to transform into inert matter the *anguillulæ* which, by fixing themselves on the intestinal mucous membrane, give rise to dysentery, *etc.* The efficacy of boiling in destroying active animal and vegetable parasites is well known; and according to Dr. Dounon, dysentery is always caused by the introduction of *contagia* into the body by drinking water; and the hope is expressed that, that fatal disease may in all countries be suppressed by the adoption of this very simple precaution." The examples I have given clearly demonstrate, that the germs of the disease were in the water, and that dysentery is caused by a parasite, there is little doubt. In Whitelegge's Hygiene and Public Health, the following sentence supports this fact:—*Parasitic Amabæ, twelves times the size of white blood corpuscles, have been found in the intestines and fæces in cases of dysentery, and in pus from tropical abscesses of the liver associated with dysentery.*

In the cases I have cited I am convinced, that the infection was through the drinking water, for the existing cases at the time of the adoption of boiled water amongst these people under observation, steadily improved under treatment by bismuth, soda and opium. I having at this period dropped the ipecac treatment entirely. The solitary case which occurred in house No. 2, I attribute to this patient having been on a visit to the house of a friend for a few days during the period, where I have no doubt he imbibed the germs of the disease, as he told me there were two people there suffering from ague and dysentery at the time.

Now with regard to the treatment of dysentery with ipecacuanha. It is about the best remedy we have so far as my experience goes, and I should like to know if any experiments have been tried with this drug or its active principle on germs, that have been found in the intestines and fæces of dysenteric

subjects. In giving this remedy to patients, I have always preceded it's adminstration by the application of a mustard plaster over the stomach and a draught of laudanum, still I have frequently met cases, who with all these precautions could not retain even a 5 grain pill of ipecac for five minutes. I have had it suggested to me to try *ipecac sine emetine*, and I have had my doubts whether ipecac so administered, would be so efficacious as when given pure, I always fall back upon bismuth, soda, and opium, and concentrate all my attention to the diet, drink and surroundings of my patients, when I find they cannot take ipecacuanha, and I have rarely failed with this treatment. In the *Indian Medical Gazette*, for October 1878, there is an account of a new remedy for dysentery, which is said to have all the virtues of ipecacuanha, without the nauseating properties of that drug. Assistant-Surgeon Amrito Lall Deb of the Howrah General Hospital, who was the first to notice it, reports, that the name in Bengal for this plant is *Rungun*, belonging to the genus *Ixora*, and that it is very efficacious in Dysentery. Dr. King the Superintendant of the Calcutta Botanical Gardens, recognised the plant as belonging to the species, I *Coccinea* and *I. Bandhuca*. This remedy was tried at Howrah, in doses of fifteen to thirty grains three or four times a day, of the fresh root ground to a pulp on a curry stone with a piece of long pepper, administered in water, and the paper further says, that extensive trials were then being made with this remedy; but I do not recollect having seen any further accounts of this drug.

Another point for consideration in dysentery is, its frequent association with abscess of the liver and malarial fevers. In lower Bengal and Assam, the latter associated disease is most common, and suggests the idea, that both diseases seem to have something common in their origin or exciting cause, for wherever *malaria* is rife, there also will be found its ever accompanying fellows in destruction—dysentery and liver abscesses.

It has been commonly accepted, that the liver abscesses occuring amongst European Planters and rich Natives of Bengal are due to the excessive use of alcoholic stimulants and an excess of stimulating food, but these causes in my opinion are secondary in consideration with the chief exciting cause in *malaria* and dysentery-stricken districts, for the temperate suffer in almost the same degree as the others. To say, that *malaria* is the cause, and to give no further explanation is unsatisfactory. If *malaria* under certain conditions brings about a definite effect in the shape of *tertain* ague, the conditions must be different for the same poison to bring on a liver abscess or an attack of dysentery. These are all matters that require investigating, and suitable points for more experienced men than myself to take up, and who have more time at their disposal for the purpose.

VACCINATION AT BANGALORE.—There has been progress in the work of vaccination during the year, the number vaccinated being 4,709 or 293 more than in the year before. The cost of the department amounted to Rs. 2,045 against 1,988 in the preceding year.

OPHIOLOGY.

OR

A DESCRIPTION OF THE SNAKES OF INDIA.

BY R. P. BANERJEE, B.A., G.B.M.S.L.

PACHBADRA, RAJPUTANA.

IN bringing the following to the notice of the Profession, I need hardly apologize to say, that many books have already been written on the subject, but not with the definite view of facilitating an easy diagnosis or recognising the different kinds of snakes found specially in India. These books were either masterpieces or contained more scientific expositions, or exhaustive details, therefore are foreign for any practical use, and some of the best works on the subject are so costly, as to be out of the reach of the ordinary reader, and contain matters interesting, but not practical. In the following paper I will attempt to convey in a less concise manner, the method to enable any one to easily distinguish the several kinds of snakes without much trouble and labour. I omit the rare varieties, as they have to be yet defined and their places in the classification established.

Sir Joseph Fayrer, Blythe, Gray, Richards, Everett, Nicholson, Günther and Russell, and over a dozen more authors have treated the subject in their own way, and their productions were more scientific curiosities, than of practical use. In a country where these reptiles are so abundant, and so many hundreds, nay so many thousands of human beings die every year from the bites of these dreadful creatures, an easy diagnosis would be more desirable, than anything to avoid these animals.

From the earliest time snakes were held in veneration by the people of India, and looked upon with awe, as the manifestation of the *Kala*, the destroying attribute of the Almighty, the *Paramatman*. Hindoos adored them, but others wreaked their vengence, because of the Mosaic identification of Satan with the Serpent. It is not right to worship them or to destory them, because, all beings are created to some definite purpose in the economy of the creation. Man has no right to kill them or adore them, inasmuch as to kill or adore a crocodile, or other beings of the lower order. But it is imperative to keep off these animals, and avoid the dreadful effects of their bites. It therefore becomes necessary to distinguish poisonous from non-poisonous ones, and this power of discretion is so much overlooked by the people in this country, that they generally take the color of the skin or superficial characters into consideration, and confound quite harmless snakes with poisonous ones, which leads to serious results. India, not unlike other countries, has its peculiar gipsy doctors, or snake-bite curers, but to rely upon them without sound principles would be most disastrous.

In India all kinds of climate prevail, from the Arctic Himalayas to Torrid Ceylon, and these again are affected by the nature of their soils, habits, and also the extent of the virulence of the snakes differ often very widely in different localities, a fact that must not be passed over by the practical ophiologist. The *eches* of Sindh is not the *eches* of Rajputana or of the Punjab, or of Central and Southern

India, but a different reptile altogether in power of effectiveness and virulence, though the one and the same animal.

Native names are misnomers and can hardly be trusted, sometimes harmless and poisonous snakes are confounded, therefore, some sort of scientific scrutiny is necessary. To effect an easy diagnosis it would be necesssary to learn certain facts about the following parts of the body of a typical snake, both harmless and venemous.

The parts are—*The skull, the Gape* of the mouth, *the teeth* or the *fangs, the Integument*, and the *form of wound* inflicted.

All detailed descriptions should be studied from elaborate books, but here only the distinctive characters distinguishing one class from the other is given, to recognize them at sight more easily.—

The skull, in harmless snakes is usually more solid, and the bones more compact, in some massive and heavy, the component bones are more distinguishable and the sutures well defined.

The skull of the venomous varieties is usually light and the bones are thin and not massive or heavy.

The gape of the mouth in the harmless snake is very often limited, but it is much more extensive in the poisonous snakes, where the bones forming the mandibular arch are more extensively moveable.

The teeth differ very widely in the two classes of snakes. In the harmless, all the teeth are equal and curved backwards and usually spring from the palate, are generally anchylosed and not movable, some varieties have teeth fixed in the maxillary bones, but these are fixed and immovable. In the poisonous snakes on the other hand, besides the palatine, there are peculiar teeth, grooved or channelled, recurved, large or small, varying from 1—3 on each side, from the upper maxillary bone, and is connected with a peculiar glandular apparatus and are movable and so mechanically attached, that any attempt to widen the gape causes them to become erect. In some, this erect position is always maintained, while in others, the tooth (fang) is folded in a fold of the mucous membrane of the mouth, and only made erect when an effort at wide gaping is made.

The integument is next in importance to the teeth as an organ of diagnosis. The peculiar dispositions of the scales on the body, head and tail, and the abdomen, are often distinctive characters of each class, genus, and even the variety of snakes.

The presence, or absence or normality or abnormality of the head-scales, are again distinctive characteristics.

The head scales or shields as they are called are—

The central or the *vertical*, around which all others are placed, usually one.

The occipital, usually two, are placed behind the vertical.

The frontals, these are in two pairs.

Anterior frontals and *posterior frontals*, are placed one before the other in front of the vertical.

The rostral, usually one of very variable shape, are placed just in front of the anterior frontal and forming the upper boundary of the snout.

The supracilliary, consists of one on each side, just above the eyes, and on each side of the vertical shield.

The post-ocular, also varying in number and shape, bounds the back part of the orbit.

The labials vary in number, and limit the edges of the cleft of the mouth both above and below.

The nasals are variable and situated on each side of the anterior frontal and the rostral shields, and is perforated by the nostrils.

The loreals, or cheek shield, confined to a few kinds only, and of variable shape and number are found between the anterior or pre-ocular, and the nasals.

The temporal, vary in shape, size, and number, and are situated usually behind the post-ocular and the occipitals.

The gular are in pairs, one, two, or more, situated below the lower lips, and extending behind to the neck.

The scales of the tail vary in shape and disposition, they are, smooth, entire, keeled or divided into two, or bifid, or terminating in a disc or spine.

The scales of the body-surface are either smooth, grooved, lenticular, imbricate or keeled. A transverse range across the body varying from 15 to 39 scales.

The ventrals consist of flat plates of epidermis, with bevelled margins, variously shaped and colored, and attached at the ends, and vary much in their number, giving distinctive characters to some class of snakes.

The anal scale, in fact the terminal ventral scale, which overhangs the anal aperture, varies in size, shape, and nature. It is either entire or bifid, and adds peculiarities to some kind of snakes.

The coloration of the integument without a few exceptions is not a *criterion*, because it is very easily affected by the habits of the snake. But usually in *tree snakes* the color varies from brown or green to a red olive. In earth snakes, the colour is always olive or ochre colored.

In those that lead indifferent lives, coloration varies from a dark brown, bluish, olive, to buff or black.

All those that live in water have light colors.

A few kinds have an iridescent play of colours or have a variegated skin.

In India this coloration is misunderstood, a slight tone of alteration finds a favourite name, and is a distinctive variety or class. The idea has been much more adopted in Bengal in connection with the *cobra* where this is much abused, and with every change of colour, a separate name has been assigned, so we must not be misled by the mere coloration of the integument.

(*To be Continued.*)

RATIO OF PHYSICIANS TO POPULATION.—A writer in the *Medical News* says, that in the decade ending 1890, the colleges of the United States have matriculated 115,355 medical students and graduated 39,996, or an average of 4,000 yearly. He thinks that this number is twice as many as the requirements of the people demand. In support of this statement he submits the following statistics, based upon the proportion of physicians to the inhabitants in the following countries:—Sweden, 1 to 7,000; Italy, 1 to 3,500; Germany, 1 to 3,000; Austria-Hungary, 1 to 2,400; France, 1 to 2,000; United States, 1 to 600.

A Mirror of Practice.

UNIQUE CASES OF PARESIS.

BY ASSISTANT-SURGEON T. M. SHAH,
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Case I.—Gowrishankar Jeyshankar, Brahmin, *æt* 60 years, was first seen on 20th July, 1891, and was found to suffer from what may be called head-drop. This expression is drawn from the similarity of the term *wrist-drop* which is a result of paralysis of muscles owing to lead poisoning. The head is supported on the top of the vertebral column, though it is not placed on the spine in a line of the centre of gravity, yet it is supported in the erect posture by a number of muscles and ligaments acting and counter-acting, so as to preserve the head erect, and allow it the various movements it is endowed with. The foramen magnum is placed behind its vertical axis. The head has therefore a tendency to fall forwards when the voluntary or rather automatic support is withdrawn. We notice therefore, that when a person in the sitting posture is lulled into sleep, his head usually drops forwards. Opium-eaters and others who doze while sitting, afford us correct examples of their head dropping or drooping.

The notes of the patient under question is as follows :—He suffers from head-drop ; that is, the head is unable to keep its erect posture, but falls forwards and the chin is brought in contact with the chest. It can be raised and brought in the erect posture by the help of the hands, and it can be retained in that state by the same extraneous help. The head if thrown back remains in that posture, but it cannot be brought to the normal erect position by voluntary muscular effort. The head began to lose its balance slowly, and in the course of the past two months it is reduced to its present condition of helplessness. The patient has to keep it erect by the assistance of his hands while eating, drinking, or walking.

There is no deformity or abnormal contraction of muscles or any apparent assignable cause of this peculiar disease. It may be, that the structures, ligaments and muscles supporting the head are relaxed. The patient was in the habit for some years to rise very early (at 3 a.m.), and sit up murmuring *gayatri* till day-break, and as is natural under the circumstances, he half dozes whilst performing his religious task. While thus in a half sleeping condition, the head as a matter of course drops down, and this continued strain is probably the cause of the relaxation of the tissues.

This patient was under observation for months, and was prescribed tonics, carminatives and embrocations.

Note on 8th January 1892.—Says, the head-drop has much improved. When the head falls forwards, the flexion of the neck is not complete, that is, the chin does not touch the chest. Again, this partial drop can be corrected by voluntary muscular effort alone, without the help of the hands. The head preserves without help, the erect position, when the body is upright, but drops when the body is inclined forwards. The head therefore requires the help of the hands, when he is eating, as the body is then inclined forwards, according to the Hindu manner of taking meals.

June 1892.—The patient now goes about. The head remains erect, and the tissues have nearly regained their tone.

Case II.—Daood Tarmahomed, *æt* 30, resident of Upleta, suffers from two sets of symptoms.

1. In this case the head is thrown back and the neck is fully extended, and the patient can bring it to the erect posture either by muscular effort, or by the help of the hands.

The neck cannot be completely flexed, that is, the chin cannot be brought into contact with the chest by any effort on the part of the patient, or even by the assistance of another person in bending the head. When flexing the neck, the muscles on the anterior aspect—especially the sterno-hyoides, rise in prominence, and contract, and the head rotates somewhat from right to left. Rotation of the head is incomplete. Head cannot be fully rotated to the right side, but rotation to the left side is nearly complete.

While walking, the patient has to support the head in the straight condition with the hands, otherwise, he cannot see his way in front, the head being thrown back.

While eating, he has similarly to support the head in the straight position with his hands. He finds it difficult to swallow.

In the sitting posture he can flex the head with muscular effort, and keep it against his knees with continued effort. But the head has a constant inclination to be thrown back.

Complains of constant pain in the nape of the neck. He has suffered from this head affection for nine months. He had an attack of fever for three weeks, after which the head began gradually to rotate and turn back.

The muscles of the jaws have also to contract when the head is brought forward, as is usual during muscular exertion.

2. The right hand is distorted, the palm is cupped, the metacarpo-phalangeal joints partly flexed, the first phalangeal joints semi-flexed. Fingers cannot be flexed into the form of a fist, nor can they be all brought into the form of a cone. They can be partly bent from the metacarpo-phalangeal joint. The thumb is more or less free in its motions. Fingers if extended by effort, tremble or quiver. He has suffered from a burning sensation on the back of the second metacarpo-phalangeal joint for the last 3 or 4 years, sensation is perfect everywhere.

For the last ten months, the fingers have gradually become stiff, and three months ago they acquired the present attitude. Complains of wandering pains over the entire right hand and arm.

It is evident that the seat of disease is somewhere in the cervical region, whereby the muscles in the back of the neck are irritated and spasmodically contracted. The nerves supplying the hand and phalanges derived from the brachial plexus are also involved.

The patient came from a village and was under observation only for a week. He then had an attack of diarrhœa, and absented himself, and the further progress and termination of the affection could not therefore he recorded.

CASES FROM THE RANCHI CHARITABLE DISPENSARY.

REPORTED BY NARESH CHANDRA MITTRA, M.A., M.B.
ASSISTANT-SURGEON IN CHARGE.

BEFORE reporting any of the cases, it would be as well to give a description of the climate and sanitary aspects of the locality, so that some idea may be formed of the character of cases to be expected here. Ranchi, the head quarters of the district of Lohardaga, and seat of the Commissioner of the Chota-Nagpore Division, is situated on a *plateau* some 200 feet above the sea level. Its immense height is a safeguard against diseases prevalent in the lowlands of Bengal, and secures for it the advantages of a very pleasant salubrious climate. It is hilly, and as common to these places, has extremes of temperature in the hot and cold seasons. The summer is very sultry, the temperature running up to 107° and the winter is very cold, extending from the middle of October to the middle of February. The temperature running down in some very cold nights in the latter parts of December to the freezing point, so that, water exposed to the atmosphere during these nights is found frozen in the early mornings. In the interior of the district, whole fields are seen on some winter mornings, covered over with ashy coloured particles, this is nothing but hoar-frost. This place enjoys the reputation of being second to Darjeeling as a health resort, but is less frequented as such, owing to its being situated at a great distance from the nearest railway station, and the difficulty of the journey lying over undulating surfaces, and dense jungles. It is no doubt a good *sanitarium*, and those who have ever visited this station for the benefit of their health, never went away without some marked beneficial impression upon their health, and always cherished the hope of revisiting this *charming* place. But most of its charms pass away with the winter. It is very unhealthy in the months of July and August, and part of September, for not only fevers and other diseases prevail, but that dreadful visitant *cholera* spreads havoc every third year, and sends to early graves, a good many of the population.

I. Ague.—Considering the height of the station, and in consequence, its freedom from the baneful effects of a damp climate, *malaria* may be said to have no permanent hold here. The soil of the place is sandy and very porous and its sloping surface has a natural drainage of its own, so that immediately after rain, all the water is either absorbed into the porous soil or drained off the town owing to its natural slope, the effect is, that there is no stagnation of water and consequently, the soil is quite dry. But the advantage is not recognised by the residents of the district outside the town, where in many places, whole tracts of land being partially or wholly surrounded by hillocks allow no egress for the accumulated rain water and consequently favor stagnation. The result is, that *malaria* in its deadliest form is rampant as in any of the worst hot-beds of lower Bengal. It is with these that we have to combat against. Some are of regular types, *quotidian*, *tertian*, or *quartan*, others are irregular. The fever comes on with a slight shivering. In the mornings the patient is free from fever. The people of the interior scarcely having had European medicines administered derive the greatest benefit from single small doses of quinine given at regulated intervals. I have cured a case of ague of one year's standing by 3 daily doses of quinine for three days. Quinine is the best antiperiodic in ague, but sometimes it fails and then in combination with arsenic it works wonders. Quinine often produces a buzzing in the ears and sets up irritation in the stomach and bowels. To obviate these effects we are at present using in this dispensary picrate of ammonia in gr. 1/6th doses three times a day. It is very cheap and it has not the drawbacks of quinine. Given alone without any purgative it is not very efficacious, so that, to have its full effects we have adopted the plan of administering it along with some purgative, the cheapest procurable from the bazar, *senna* leaves, we make an infusion of it, and the routine is to give to any ague patient ℥iii of *Infusion* of *Senna*, with ℥iii of mixture of *Picrate of Ammonia*, but if there is any previous looseness of the bowels, the infusion is omitted. I find invariably in malarious patients, that the bowels are costive, and to give quinine or any antiperiodic without opening the bowels is useless, once there is free puragtion, the best results are obtained with the smallest dose. As for the comparative efficacy of picrate of ammonia in ague, I may say, that in *quartan* types I have found it most effacious. In *quotidian* cases, it is far inferior to quinine. In *tertian*, it is useful in most cases. The difference in its efficacy depends upon the interval it is allowed to combat against. Being rather slow in its action as an antiperiodic, it is almost sure to prevent a paroxysm when a sufficient interval is allowed to produce its effect, whereas in *quotidian* cases 24 hours only being the period for its use, quinine is more quick in its action and gains the combat. I use the drug in irregular forms of ague, and am glad to note that continued for sometime, it has been found to cure many obstinate cases.

II. Worms.—One very common complaint among the children here is worms. In Calcutta or other places, this disease is not so rife. The popular belief, that excessive use of sugar and other sweetmeats favours propagation of these parasites, does not obtain here, inasmuch as the poverty of the population precludes the use of any extra articles of diet, as sugar and sweatmeats, to account for the complaint. So common is this disease, that when a child is brought to the dispensary with a protruding belly, or that has been losing flesh of late, the diagnosis of worms is sure to be confirmed by a dose of santonine at bed time. The excessive use of rice from infancy among the poor of this place no doubt favours the growth of these parasites. I give santonine with gr. v of pulv rhei to help their expulsion.

Cases of tape-worm are not common here, being confined to the Mahomedan population only. The *ext. of male fern* is good in its way, but a European gentleman recommended to me the use of powdered *Baberung* in the treatment of tape-worm, as being more afficacious than male fern, that is, that a single dose is sufficient to expel the parasite completely. I may here mention in passing, that *Baberung* or *Bhaberung* is the Hindi name, *Bidanga* the Bengali—very common in the *Basaars*. These are the seeds of *Embelia Ribes* or *Robusta Burm.*

N. O. Myrsinaceæ. The seeds are pulverized and given in drachm doses with honey, as an anthelmintic. I have tried it in many cases, but I have been quite disappointed with the result, for it serves to expel small bits of the parasite, so that in my experience, it is far inferior to *male fern.* But I must do justice to the gentlemen to mention, that I did not exactly follow his advice in administering the drug by giving it in powders, whereas, his prescription was—

℞ Pulv Baberung ... ... ʒvi
Thick *Dahee* (curd) ... ... ℔j
Sugar ... ... ʒiv

The patient being without food for 24 hours, to take a large tablespoonful of sugar early in the morning, ten minutes after, to take the aforesaid mixture, 3 hours later to take a full dose of castor oil. The mixture ought to be prepared overnight. As this recipe is more for use of private patients or Hospital ones, and not to be used among out-door patients, and as I have not had any occasion to give it a trial, I shall feel very obliged if any reader would kindly insert in the columns of *The Medical Reporter*, the results of his experience of this drug, used according to the directions given above.

III. Rheumatism.—These cases are very common here. They are generally types of chronic sub-acute forms and are rarely the sequel to an acute attack. The complaint generally is—pain in all the larger joints without any concommitant inflammatory process or fever. Dr. Gregg, Sanitary Commissioner, Bengal, was on his last inspection of the local municipality, surprised to find so many cases of rheumatism in a place so high and dry, and I explained to him the possible cause being the severe cold prevailing here. As for treating these cases, rarely we have resource to internal treatment, local application of Tinct. Iodine or some other stimulant embrocation is sufficient to mitigate the sufferings.

IV. Diseases of the Eye.—Cosidering the excessive heat which prevails during the summer months, it is not unusual to find many cases of conjunctivitis. Dr. Swanzy in his book on eye diseases speaks of the rarity of acute granular ophthalmia in Europe, but here it is very common. The sufferers are mostly infants. The attack commences with great swelling of the lids. The eyes are consequently kept completely shut. The parents, belonging in greater part to the lowest section of society, never seek treatment at the dispensary, but apply all sorts of rubbish over the lids, one among these being a paste of *mosabhur* (Indian aloes) and opium. If after using these, and others, advised by their friends, the eyes remain closed, they are brought to us—when in many cases the cornea is found horribly ulcerated or totally lost. This disease, acute granular ophthalmia, is known by a special name among the people. They call it *Kathua* or *Rohu.* As for treatment of these cases if brought early, I order one application of *lapis divinus* pencil to the lids after everting them thoroughly, and subsequent application of fomentation over both the lids, and instillation of Boracic lotion (gr. v. to ʒj) three times a day.

V. Diseases of the Ear.—Among the out-door patients diseases of the ear specially otorrhœa is very prevalent. This is mostly found among the poor and ill-fed population, no doubt the filthy habits of the people have much to answer for it. Syringing out the ear with warm Boracic lotion is an efficient cure for it.

VI. M. M.——*æt* 14, attended the out-door, for the following complaint. That immediately after he had taken his meals he brought up everything. This occurred whenever he would eat or drink anything. There seemed to be a regular anti-peristalsis of the œsophagus. In appearance he was lean and sickly. His appetite good—bowels regular. He was treated at the dispensary with all sorts of medicines, sedatives, as morphia, bismuth, cerii oxalas and hydrocyanic acid, but to no avail, for any liquid taken in the shape of medicine or food, was immediately thrown out. Even pills containing either of these were vomited. A novel plan of prescribing medicines without any water struck me, and I ordered :—

℞. Bismuth Subnitrat ... ... gr. x.
Cerii Oxalas ... ... gr. x.
Morphia Hydrochlor ... ... gr. ¼

M. ft pulv.—One thrice daily, half an hour prior to taking his meals. The powder to be mixed with a little glycerine or honey and sucked up. The patient returned after two days for more powders, as he had vomited only once after using them. He was given 6 more of the same kind. He came back to tell me, that he had had no vomiting since. He was given 4 more powders, but did not come back. Most probably he got rid of his complaint.

(To be continued).

LARGE NASAL CONCRETION.

By J. V. PILLAI M.B.,
MADRAS.

MRS. H.—A middle-aged Singalese christian lady, *æt* 39, had been suffering for some years from a discharge of pus, fœtid in character from the right nostril, with complete obstruction on that side, and partially on the left. Had been under treatment off and on, for ozœna and ulceration of the septum. No history of syphilis or malaria. On examination, I found about one inch deep in the right side of the nose a pulpy mass, and imbedded in it a hard dark substance occupying the whole of the inferior meatus and encroaching upon the inferior turbinated bone. I found some difficulty in removing the concretion with a pair of forceps, there was much bleeding, and I found the exposed bony surface denuded, but these spots subsequently became covered and healed. The rhinolith was slightly rough on its external surface, and perhaps this was the cause of the irritation and subsequent suppuration. If it was not for the pain, discharge and obstruction, the patient would perhaps not have consulted a surgeon, there was no loss of the sense of smell, although the mucous membrane was destroyed, and there was a constant watery running from the right eye which was due to reflex irritation.

I have thought the notes of this case would be interesting, if read in connection with the notes of a very similar case reported in the columns of *The Medical Reporter* a few months ago.

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The Medical Reporter.

CALCUTTA: JANUARY 1st, 1893.

OURSELVES.

IN thanking our Subscribers and Patrons we appear again this morning before the world, with our first number of the second volume. Our progress must depend in a very great measure on the support we receive from the Profession, from whom we are glad to be able to say, our venture has already received a very favourable reception. Undeterred by the failure of many similar attempts in this country, and fully conscious of the risk to be faced, we determined to supply what seemed to us an apparent want, by launching this Journal, which we have successfully piloted during the past year by patient industry and perseverance, and have we trust, overcome in some small measure, the difficulties and discouragements with which an Indian journal of this nature, is inseparably connected. The result has so far, to our thinking, proved a complete success, and our venture already commands that degree of appreciation and support, which we had every right to expect for the undertaking, and to which we trust it is in all fairness entitled. A year ago, our first number and prospectus were issued without a single subscriber on our books, and a large number of our professional brethren in various parts of this vast Indian Empire, cheerfully came forward to help us in our cause, and promised their patronage and support, whilst we had numerous hearty responses from our co-laborers in various parts of the world, in the form of exchanges, contributions, subscriptions, &c, for which we take this opportunity of again thanking one and all of them.

Amongst the interesting papers which have appeared in these pages, we would draw particular attention to Dr. Ronald Ross' paper, on Rheumatism with Abdominal Tenderness; Dr. Walker's, on The Treatment of Cholera; Dr. Bidwell's papers, on The Hypodermic Treatment of Erysipelas, and Skin Grafting; Dr. Moore's papers, on Paroxysmal Sneezing and its Cure, and The Pneumatic Treatment of Lung Diseases; the elaborate papers of Drs. Chew, Ghosal and Day; Dr. Sandel's instructive paper on The Nervous System in connection with Dreams; Dr. Mittra's papers, and also we should not exclude the most important contributions, on Drugs of this Country, by Dr. R. P. Banerjee. To these Gentlemen, we gratefully offer our cordial and hearty thanks, also to others who have so ably and willingly aided us in our work.

Nothing startling or of high interest has transpired during the year, but we would remark here, that the Report of the Leprosy Commission, which we have been looking forward to with very great interest, has not yet been published. Famine has done its terrible work in various parts of our Indian Empire, and our neighbours across the water have had their share of the visitation of Cholera, which has been the most conspicuous occurrence during the year from a medical sense. The Opium Question has been well threshed out, and the outcome of the agitation has been watched with amazing interest, by the whole Indian and English Press. Unfortunately for the Anti-Opiumists, they have forgotten, that they ought to be subject to the 'powers that be,' an error into which many sincere Christians have been drawn into, in this crusade. The subject of the great increase of Venereal Disease, has also occupied the attention of the medical Press, and we hope the suggestions which were thrown out not only by ourselves, but also by others, will be acted upon for the general welfare of humanity. The subject of sanitation also shared a prominent place in these pages, and we are glad to observe that matters have been remedied in quarters which we very prominently exposed.

The Service Question has also been well threshed out, and we would cordially invite the attention of Government to the many hardships and grievances which the members of the S. M. D., and Assistant-Surgeon Class are labouring under, whose cause not only would we plead with the Government, but we would also ask the help and sympathy of all Officers under whom they serve.

We address on this occasion again the whole Medical Profession in this country, Government Surgeons, Private Practitioners, Asst-Surgeons, Army Apothecaries, Medical Missionaries, Hospital Assistants, Medical Students, and would ask the reading portion of it to become subscribers. Our plans of work need hardly be explained. Our pages during the past year and in the present issue speak this. We are very anxious and ambitious to secure a more extended popularity, and have certainly wit enough to know, that in the present age, hollow pretensions and empty promises, will not serve those who make them for more than a very short period. To our present and future efforts, therefore, and not to empty promises, we cordially invite their attention, and we shall be rejoiced to continue in friendly companionship with them, so long as they consider us worthy. And our hope is, that they will not only be willing to receive us, but anxiously look forward to our arrival monthly, and that this Journal will be a credit to us, and thus afford another proof to the Profession at large, that a taste for medical literature is still alive in this country. When there are such great strides in other countries, why should there be such a dearth of it here, with so much material and able workers at hand, and why should it not flourish? Why, we ask the question, should not Calcutta and India have an independent medical journal, and a

first class one? We cannot account for it, and it is not true, but absurd, that nothing good in a literary sense can be produced in India. There is, says the highest of authorities 'safety in a multitude', and we trust we shall find this safety through a multitude of subscribers and contributors. We are willing to do our best, and we beg the support of our professional brethren to whatever extent their time and opportunities will allow.

In this field we are a friend, and we trust from the position we have taken up, that this has been already noticed. We shall advocate the cause of all, and we are ready wherever we can *consistently and conscientiously* do so, to defend all just and protest against all unjust and tyrannous measures, leaning to no sect, party or clan. Foremost above all, it has been our aim in the past and will be also in the future, to give no one even by a single word, cause of offence.

In judging or giving an opinion of a Journal of this kind, we would respectfully ask our readers to remember, that there are out here in India, few or none of the advantages which such an undertaking would have in England. There, writing is almost a profession, and it occupies the business as well as the spare hours of many able writers, and there, appliances may be had at will, names of fame to be had merely for the asking may be commanded, but here in India, although we have abundant material, able workers and writers, yet, leisure, *prestige*, the effects of climate, and all other things usually connected with success, are wanting. In the cause then of the noble traditions of a sacred profession, we ask, is it not more kind to encourage, than wise to depress an undertaking such as this, whose only object is the furtherance of Medical Science? This then should be a great inducement to those who can assist, not only with material of general medical interest, but also such matters as can only be treated of in India, to give the Journal an individual and local interest. We urge all who wish to see an Indian medical journal established and conducted on a firm footing to become subscribers, and also to do all they can to encourage local medical literature. We know the difficulty there is in this country of sustaining a periodical of this kind, and the importance of encouraging writers in India who are masters of the subjects on which they write, to contribute to a local paper. The temptation is surely very great to send one's contribution to the *Lancet*, the *British Medical Journal*, the *Practitioner*, &c., whose pages are read by so many, and which in the field of medical journals take the lead in the world, but if we are really interested in the progress of medical literature *in this country*, we should sacrifice even some advantages to help forward the cause of local progress.

Owing to general apathy in England as to Indian affairs we have only been able to secure a few contributors at present, we hope to be able to increase our list of these also very soon. All deficiencies can however be met by the Profession in India, generously aiding our undertaking. As a novel feature in Indian medical journalism, we have arranged with a leading and popular London Surgeon, for a regular London Medical News Letter, the first of which appeared in our issue of December last, and we have almost completed arrangements for others, from other Medical Centres. We hope this will give the *Reporter* an unusual interest, and operate with a liberal and enlightened Profession to induce them to extend their patronage, and enable us to maintain on a firm basis the *Medical Reporter*, so that it may be a credit to our Profession in India. We wish the *Reporter* emanating from Calcutta, the Metropolis of our British Empire, may be received and welcomed by the whole Profession here, and would conclude by thanking again those who have expressed their kindly wishes and have helped us even in a little measure during the past year. Those whom we have omitted to thank individually, will please attribute the omission to the many calls on our time, and now in sending out this number, we take leave to wish all our friends and readers—A Happy and Prosperous New Year.

THE AILMENTS OF WOMEN.

It is sad to think, that the effects of over-refinement, the fruit of the civilization of our time, and which neglects the due or normal physical culture of our girls and young women, is really producing a state of being among women which is unnatural, and there are many men and women, who from their experience, would not dispute the truth of the French aphorism *La femme est une Maladie*, and we suppose, that even our leading gynæcologists would not consider the French aphorism altogether a sarcasm, but would say, that it applies in a great measure to women, who have been brought up and pass their lives in cities, and the application of it would be still more nearly correct in respect of women, who dwell under like circumstances in the great cities of the world, London, Paris, Berlin, Vienna, New York and others, and we may add Calcutta. We believe if a comparative census of those cities, with this view, was taken, Calcutta would head the list, for we believe, there are more ailments among the women in Calcutta than in any of the above cities, though no positive statements can be made without statistics; yet if it is true, and if it applies only to European women, or women of European descent, the matter is serious and an endeavour should be made to obtain statistical confirmation or refutation of the supposition.

What is the cause of so much ailment among the women of our city? We do not think it needs deep research, as it is apparently due to the abnormal lives our women lead, a sort of hot-house life for human beings, especially may this be said of many women in the higher grades of society. In Calcutta many of the women of this class take little or no exercise that could be truly called so, not even in the oversight of their households, for here, a small army of servants await every call; and carriages convey them on their visits, and whenever they go outside their gates; the habit of driving out in the mornings and evenings is the salt of their lives.

We know of women so little fond of exercise or so helpless from habit, that they do not care to fetch a glass of water for themselves. Our *khansamahs*, *bearers*, and *ayahs*, are quiet, polite, domestic aids, but owing to their quick and willing service, very often help in the collapse of the health of their mistresses; the diagnosis of these cases is ill from want of

exercise, from having nothing to do. If we only had English servants here after the type of those described by George Augustus Sala, or it would even be better if our Indian servants could copy the lofty independence of American helps, they would then impart sufficient friction into the lives of their mistresses, and so help to keep them wakeful and well. Injudicious dietary, injudicious hours of dining, have much to do with the feeble health of a large number of women. Tight lacing of corsets is a fruitful source of weakened heart and lungs, and this is why such a large number of women in Calcutta are so physically listless at a time of life, when every motion should have the elastic vigor of young womanhood, or display the settled strength of matronhood.

It is true, our climate does not permit for lengthened periods of the year so much of open air exercise as in other and more favoured lands, but even during these periods, there are parts of nearly every day, when exercise can be taken out of doors, but when this is not possible, the women who have had a good physical education in girlhood, have learnt how to make home duties subserve the purposes of normal physical exercise, and thus lead healthy happy lives, even when circumstances compel them to keep much within doors. We often wonder why women in India are not fond of walking for exercise. There is visible now and again among some women a spasmodic enthusiaism for morning walks, but this is not what we mean nor what is wanted. The two, three, or four mile walk, so common a habit of women of wealth and rank in England, is eschewed in India. Is it pride that prevents the forming or keeping up of such a laudable habit? a ray caught and retained from the now extinct glory of pride of Delhi's Sultan and his satraps? If it is so, it is now out of place, because, India has entered on an utilitarian period of existence. We remember a lady, who with her daughters kept up in India in all seasons the European walking habit; in wet weather with stout boots on their feet, umbrellas in their hands (not the dainty sunshade) and suitably apparelled they walked for miles every morning and evening; they had good health and good complexions, and the general attractableness of healthy cheerful women, such is the secret of that brightness which some women possess, not the brightness of an attribute but individual, and which throws a halo of happiness around them, this characteristic we all appreciate when we witness it, but find it impossible to describe in words. These people, this lady and her daughters, were singular in their habit, for we do not remember to have seen their good example followed by others.

La femme est une Maladie.—What is the reason for such an assertion as it is not the natural condition of women, and French scientists cannot be accused of flippancy. We believe it is due to civilized life that such a statement is not a libel, the heritage of several generations of an unwise unnatural system of living which has affected the general healthfulness of a large percentage of the women of the civilized races of the earth, and also invaded special organs with disease; for the uterus and the breast may now be distinguished pathologically from almost other organs of the body by their proneness to disease, and we do not think we go too far in stating, that the women of civilized life who do not suffer from some form of disease of these organs at some period of their lives are very few indeed, those who do not suffer from what may be called trophic tumour formations or disturbances of nutrition. And correlated with the specific diseases of these organs we may put other diseases, which at first sight appear quite unconnected with them. The product obtained from the experience of many, points to the conclusion, that a great number of the women of civilized life are ailing of minor or major complaints; some of them have hardly ever known what perfect health is; while those who may not be ailing are yet constitutionally so delicate, as to be vigorless and have never known the true pleasure of living.

We cannot help remarking *en passant* what aptitude men and women display to run in grooves, human living seems to be a big game of "follow my leader." A large number of people who suffer from bad health, would, if they could only get out of their grooves, or desist following out in their daily lives what somebody else does, recover health and be happy, but to teach patients to live in a common sense manner and follow common sense instructions, is about the hardest part of a doctor's work, and many say, that female patients give the most trouble in this respect.

The phrase *La femme est une Maladie* not being woman's natural state, very little investigation is required to show, that it can only be applied to her with any truth when she is placed among the artificial and enervating surroundings of modern civilization. A beautiful and healthy woman, possessing culture and refinement is a pleasant sight to look upon and leaves a happy memory. Such a woman is a noble creature, and her life, though she may not know it, hymns praise to her Creator. The perfect woman must have all the attributes that go to make her so; well balanced. A beautiful face with an ungainly or vigorless body, loses most of its charm, or, a well developed figure with unintelligent unrefined features, is like an unfinished work of art begun by a master hand, but completed by an immaturely trained disciple, The beautiful woman physically developed and correctly proportioned in face and figure, with that indescribable graceful springiness in walk and movement, cannot be so without a good and normal physical traning in girlhood, of course much of this physical beauty may be obtained through the law of heredity, showing that a generation or two back or even further removed, there had been good physical training in girlhood; though, this birthright cannot be entirely depended on, for it often happens that a beautiful and well proportioned young girl grows up an ungainly-figured, unintelligent-featured, awkwardly-motioned woman, because, careful and regular physical culture has been neglected, the mind unenlightened, and the manners unformed during that period in her life, when such care was necessary.

We need only common sense to exercise paramount sway over the lives of women, and to guide them in living to banish most of the ailments of the present day. The pungence and

brusqueness of Abernethey, would be useful in advising many female patients. Let civilization require refinement in voice, speech, features, figure, movement, we do not quarrel with civilization for demanding it; we value refinement in women highly, but we say, side by side with refinement, let common sense reign; let common sense rule the lives of civilized women in dress, food, exercise, amusements, pleasures, if this was so, we could speedily write off the trite saying, *La femme est une Maladie*, as inapplicable to civilized women. Then only would beauty of face and figure, even when quiescent indicate refinement, physical and mental, and tell us of latent physical vigor. There are cultured and highly refined women who come up to the standard that perfect womanhood requires, who have been trained in a correct way, and allow common sense a large share in ruling their method of living.

That we owe many of the diseases women suffer from, especially those of the female organs, to our abnormal system of living, to civilization, is nearly certain, for the women among savage races, as far as has been ascertained, seldom suffer from these diseases, and so rarely from organic disease as to be said to be exempt; their principal complaints rank among the zymotic. Anyone who has seen a woman of a savage or semi-savage race, has seen at a glance how vastly superior she is in physical vigor and physical healthfulness to a civilized woman. We are told on what appears to be good authority, that disease of the sexual organs is unknown among the women of the savage races of Africa, but, that a great change takes place among the same races of women when they are brought in touch with civilized life, and acquire its habits of living, they then develop a tendency to be affected with the diseases of civilized women; we have a living illustration of this statement in the Southern States of America where women of the same races brought over from Africa a few generations back, suffer in great numbers from diseases of the uterus, particularly fibro-myoma, which is said to be a scourge among them. May we not say and will it not be a truth? that they suffer thus because their habits of living have been somewhat assimilated to those of the American women; we believe these descendants of the savage women of Africa suffer from diseases of the sexual organs solely on account of their changed mode of living. As if to further establish the statement; that it is owing to the unwise system of living that modern civilization imposes, that women owe a large measure of their ailments, we are told, that there is reason to believe, that the women of the middle ages suffered rarely from disease of which the female sexual organs are now the special realm.

The investigation of this subject offers a field of inquiry for the Gynæcologist, and one of much interest, affecting so large a number of the human race as the women of civilized life represent. Are the diseases of the female sexual organs which civilized women so largely suffer from, unknown to women of savage or semi-savage life as stated? In what way do the women who suffer from these diseases differ in their manner of living from the women who are said to be exempt? These and cognate matters need investigation, so as to discover the causes why women of savage life are free from these diseases; if this knowledge was obtained with the precision of scientific research, it would be very valuable to the specialist, as well as to the general practitioner. We believe a correct knowledge of cause and sequence gained in this way would teach, that the women of civilized life need not go back to a savage way of living to enjoy immunity from the ailments which they at present suffer from, and chiefly the diseases of the sexual organs, but that they need only modify their own mode of living and adopt habits of active life, which would be a near approach to the freedom of savage life. Our women should cease to be slaves of fashion, or subservient to the bidding of custom. Women should be more independent. They can be so when they will and often for a wrong purpose, or we would not know of so many hen-pecked husbands, and Mrs. Coddle's reputation would not be so widespread.

We know, that some may think that there are very great difficulties, almost insuperable, in the way of some women in India leading more healthy and active lives, but it must be done somehow, if they want to be well and strong. They surely can give up some of the ill-advised or foolish habits of life they assume to follow fashion or to imitate somebody else, or because their *set* follows foolish ways of living quite inconsistent with all known laws of well being, and against all rules for the preservation of health. If human beings are observant, they recognise what we may call an intuition ever present with them as a guide, and in obeying which, they generally find their best safe-guard of health, this is so true, that it has passed into a common saying, that every one knows what is good for themselves, in food, in drink, in habits of life, hence it is also said, that what benefits one person, kills another—*one man's meat another man's poison*. It is only when the keenness of this intuition gets blunted by being constantly disregarded, and by and bye so blunted, as to be of no help, people in such a state may be said to have lost their good angel of health. It is as dangerous trifling with this intuition as it is with conscience, if one wishes to live well and die well. Our remarks are outside the question of real illness where medical aid is necessary, and then the doctor's instructions are sufficient. For a man or woman when really ill to be their own physician, or to prescribe their diet and way of living is a dangerous procedure, the consequences are far more serious than when a man is his own lawyer.

Our boys have a happy way of expressing practical wisdom, *where there is a will there is a way*—the boys say, and many older people say so also, and that many women have a will and a pretty strong will, everybody knows; the trite saying about wilful women having their way shows, that they could do much if they would, in the way of initiating and insisting upon reform, to a more sensible manner of living than the mode prevalent. There should be more open air living, and exercises in the open air should be more normally pursued. At present in India, much of open air exercise in the way of open air amusement is of an abnormal character, and therefore, can be little beneficial if at all so, for after more or less lengthened periods of

perfect inactivity and listlessness, women plunge into "badminton" and into perspiration baths, this is not wise, living in extremes like this cannot be helpful in avoiding the ailments of their sex.

We would repeat, that women in India to be healthy, should use their feet more and their carriages much less than they do, there should be more of walking exercise daily, not hurried walking or over-fatiguing walks, but quiet walking in an easy natural style. When they are walking for exercise, women should walk with women, or with men who are considerate enough to keep step with them; to see a little woman trying to keep step with a big man is ludicrous; and it is not kindly treatment of the constitutional powers of the woman.

These simple rules which we have lightly sketched, this simple plan of normal bodily exercise, is essential for manitaining health in a tropical climate, and it is the way to avoid suffering from many of the ailments women suffer from here.

Medical News Letters.

LONDON LETTER.

[FROM OUR SPECIAL CORRESPONDENT.]

British Institute of Preventive Medicine—Committee of the House of Lords on Hospitals—London Societies.

BRITISH INSTITUTE OF PREVENTIVE MEDICINE.

For the last three years a movement has been on foot, to establish an Institution in this country similiar to the *Institute Pasteur* at Paris, and the *Hygienesches Institute* at Berlin. Its objects are as follows:—

1. To investigate the means of preventing and curing the various infective diseases of men and animals; and to provide a place where researches may be carried on for this purpose.

2. To provide instruction in Preventive Medicine to Medical Officers of Health, Medical Practitioners, Veterinary Surgeons and advanced Students.

3. To prepare and to supply to those requiring them, such special protective and curative materials as have already been found, or shall in future be found of value.

A strong Council has been formed with Sir Joseph Lister as Chairman, and subscriptions have been invited for the building and endowment of the Institute. About £120,000 are required, and of this sum £30,000 has already been promised. It has been decided to erect the building in London, and if the scheme meets with the support which it deserves from the public, it is hoped, that some definite plans for building may be in our hands next year. The Foreign Institutes of a similiar nature are all liberally supported by State grants, but in this country of course, such State encouragement of medical science is unknown.

THE LORDS COMMITTEE ON THE METROPOLITAN HOSPITALS.

The Committee of the House of Lords, which was appointed last year to enquire into the working and financial condition of the London Hospitals, has just issued its Final Report.

They consider, that the greater number of the general hospitals are very excellently and economically managed, and they note, that the greater part of this work is done by honorary committees, and that most of the Physicians and Surgeons give their services gratuitously. One of their recommendations is, that the staff appointments of the general hospitals should be open to gentlemen not having the Diploma of the Royal Colleges of Physicians or Surgeons of London.

They wish to direct the attention of the charitable to the need of convalescent homes in connection with the general hospitals, the need of which often oblige patients to occupy beds much longer than otherwise would be necessary.

They also observe, that large clinical fields are at present closed to students, *viz*, the poor law infirmaries, and they think, that the presence of students in such institutions would stimulate the staff to better diagnosis and treatment of the patients.

In connection with this Report, it is interesting to consider the number of beds in the London Hospitals. The general hospitals contain about 5,000 beds, the poor law infirmaries 13,285 beds, the special hospitals (including 621 for sick children), 2,008 beds. In addition to these there are the fever hospitals with 2,571 beds, and the asylum for mental diseases with 19,955 beds.

Excluding these last named, we have a grand total of 22,579 beds for a population of nearly six million inhabitants.

LONDON SOCIETIES,

AT a meeting of the Royal Medico-Chirurgical Society, Mr. Howse read a paper on the advantage of amputation through the thigh, as a preliminary operation to—or in some cases instead of amputation at the hip, for cases of otherwise hopeless hip joint disease, where the patient's general condition is very bad. He had practiced it in ten cases and found the results much better, than where direct amputation through the hip was performed. The shock of the latter operation was lessened when performed after a preliminary thigh amputation.

Mr. Howse also claims for amputation through the thigh, that it gives more complete rest to the hip by shortening the lever acting upon that joint, and, that depriving the body of one of its members, conduces to the better nourishment of the rest of the tissues by the blood.

Mr. Lawford Knaggs of Leeds, also reported two cases treated by this method, and strongly recommended it.

At the Clinical Society, Mr. Knaggs reported the case of a woman with tubercular peritonitis, on whom he had performed laparotomy and washing out five and a half years ago. Since then, she had quite recovered but had developed an omental hernia at the site of the old wound; this was operated upon last year, and the peritoneum found to be quite normal with no trace of tubercle; whereas, at the time of the first operation it was covered with grey granulations. Messrs Marsh and Bruce Clarke mentioned similiar cases.

An interesting discussion has been introduced at the Obstetrical Society, by Dr. Cullingworth, upon the value of abdominal section in certain cases of recurrent pelvic peritonitis, one hundred of such operations were described, the operations were performed for salpingitis, tubercular disease of the fallopian tubes, and for suppurating ovarian cysts. He only advises abdominal section where there is a definite swelling in the pelvis. Many adverse comments were made, but on the whole, the general idea of the paper was favourably received.

THE LAW AS TO THE TITLE "DOCTOR" IN GERMANY.—The *British Journal of Dental Science* says:—Several American dentists in Germany have been fined by the Courts for using the title "Doctor." The only titles of "Doctor" recognized in the Empire are "Doctor of Medicine," "Doctor of Law," "Doctor of Theology," and "Doctor of Philosophy." It has been held by the Courts that any one practicing as dentist and using the title "Doctor," although he may possess such a Diploma as Doctor of Theology, implies that he is a Doctor of Medicine, thus misleading the public. This will prevent those dentists holding the D. D. S. or D. M. D. diplomas calling themselves "Doctor."

Transactions of Medical Societies.

THE CALCUTTA MEDICAL SOCIETY.

THE Eleventh Meeting of the Society was held at the Medical College, on the 9th November. The President, Dr. KOILASH CHUNDER BOSE, being in the Chair.

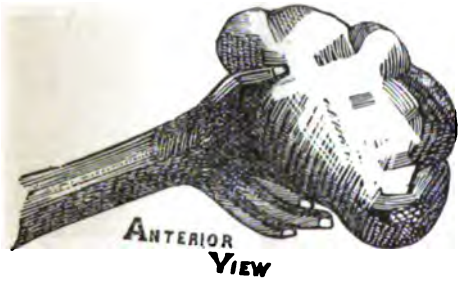
DR. K. P. KUMAR read the notes of—"A successful disarticulation at the hip joint for myeloid sarcoma of the femur" recently performed by Dr. Raye, First Surgeon, Medical College Hospital.

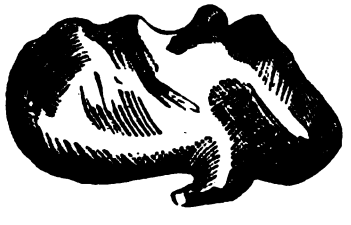
The patient, a female, *æt* 40 years, was admitted into hospital on the 15th October, in a very weak state, with a tumour of the right thigh of three years' growth. The tumour affected the lower and middle thirds of the femur, and measured 27 inches in circumference. Pain was a marked symptom, owing to pressure on the sciatic nerve. The operation was performed by Dr. Raye on the 21st October. A long skewer was introduced from backwards, transfixing the thigh between the femur and the femoral vessels, the latter being internal to the skewer. An elastic cord was passed in a 'figure of eight' round the skewer and groin on the inner side, and a second elastic cord was passed round the skewer and thigh on the outer side. A simple circular amputation of the thigh above the level of the tumour was performed, and finally disarticulation at the hip-joint was effected. For thirty hours after the operation the patient suffered from shock, and then rallied, and the temperature rose to 99·6F on the second night. Afterwards the temperature remained practically normal, the wound uniting by first intention.

DR. RAYE showed the patient to the Society, and referred to the very great improvement in her general health since the operation had been performed. It was owing to her original weakly condition that he had used the skewer and elastic cord for controlling the hæmorrhage. The method he said, was a very effectual one, but it had one disadvantage, *viz.*, the troublesome and long continued oozing after the elastic cord was removed.

DR. K. P. KUMAR then read the notes of a case of "Myxo-Sarcoma, commencing in the index finger of the right hand" under the care of Dr. Raye—

The patient, a Hindu male, 20 years of age, was admitted in the First Surgeon's Ward on the 7th October, with an enormous tumour of the right hand. The tumour measured a little more than a foot in its longest diameter, and about 6 inches in its shortest. The circumference was about 58 inches. The whole of the index finger, except the terminal phalanx, was imbedded in the tumour mass. The thumb was quite free, while the middle, ring and little fingers were folded on each other at the inner side of tumour. The patient could move the thumb and three inner fingers, but not the index. Neither the axillary nor the supra-condyloid lymphatic glands were involved. On admission the patient was in an emaciated and miserable condition, suffering from the usual symptoms of hectic fever. His right hand was a burden to him, and had to be supported by his left one. Five years ago, while at work in a field, he slipped and fell on a stone, injuring the second phalanx of his right index finger. On the same day a swelling appeared at the part injured. This grew slowly until recently, when the increase in size became rapid. On the 12th October, Dr. Raye excised the tumour, along with the index and middle fingers, which were removed at their metacarpo-phalangeal articulations. The wound united by first intention, and the operation gave a beautiful result, the first dressing being changed on the ninth day after the operation. When the patient left the hospital, he was gaining power over the muscles of his thumb, ring and little fingers.





POSTERIOR VIEW.

DR. RAYE said, that he regretted he could not show the patient to the Society, as he became very impatient and left the hospital; but he exhibited some excellent water-colour sketches, done by the hospital artist, of the condition of the case, before and after the operation was performed.

DR. MOIR shewed the Society a truss for double hernia (consisting of a leather belt with metal pads, pressure being regulated by means of a screw), which had been worn by an out-patient of his. The President, Dr. Bose, informed the Society, that this form of truss, was very frequently used by native *marwaries* and was made for them by native blacksmiths. It is very cumbersome he said, and is liable to produce ulcerations, but individuals soon became used to it.

Dr. DRURY then read a paper on "An unusual case of Psoas Abscess"—

I propose to bring before you this evening, the notes of a case of Psoas Abscess, which I met with some days ago in the *post-mortem* room of this hospital and which I think presents some points of considerable interest.

The subject, a Hindu male, *æt* 39, a cook, was admitted into hospital on 24th October last, under the care of Dr. Dutt, to whom I am much indebted for these clinical notes.

History.—The patient stated, that he had been suffering from fever, dysentery and a cough for the previous three months. His legs had been œdematous for about two months, and his abdomen became distended soon after the onset of this symptom. He had syphilis and gonorrhœa previously.

He was in a very low condition on admission, and a complete examination was quite impossible.

The heart sounds were very weak. Dulness on percussion in left infra-axillary region from 7th rib downwards and posteriorly at the left base. On the right side, dulness from the 4th intercostal space downwards, in front, and extending horizontally backwards. Sonorous rhonchi and moist crepitus were heard all over both lungs. The liver could not be felt below the costal arch, but as stated, the dulness extended up to the 4th intercostal space, and the right rectus was very rigid. The abdomen was distended and the presence of some fluid was detected. Pulse was very small and thready, and the first sound of the heart was hardly audible.

Dr. Banerjee has very kindly supplied me with the following information regarding this patient, who was under his care in the months of June and July last.

He had syphilis 12 years previously with a secondary eruption, and was treated with mercury till salivated. In the middle of May last year, after working very hard, he got a pain in the lumbar region. When he first came under observation on the 9th June last, percussion of the lumbar spine did not cause any pain, but pressure on the head

while seated did cause some pain, but the pain in the back did not shoot in any direction. His gait was natural, but on both sides the knee-jerk was very exaggerated, and ankle clonus was very marked. Liver was found to be enlarged and smooth with a hard rounded edge, and there was a slight jaundice. He was treated with chloride of ammonium and quinine for three weeks without any benefit, and was lost sight of after the 9th of July.

Progress of the case.—For some days after admission into hospital, he passed frequent loose stools containing blood-tinged mucus. On the 27th October it was noticed, that he could not extend his thighs properly, and there was found to be slight fulness in the right lumbar region and below Poupart's ligament. On the 28th of October extensive œdema was observed in the back about the middle dorsal region with a feeling of fluctuation, and on the same morning he spat up some reddish pus, exactly like the pus from a liver abscess. The swelling of the back increased and the fluctuation could be felt on the left side of the spine from the upper border of the scapula to the crest of the ilium. Another distinct fluctuating swelling was found in the right lumbar region of the abdomen over the region of the kidney. All this time since admission, the temperature had only slightly exceeded the normal, the highest recorded being 100°6F. An incision was made into the swelling on the left of the spine in the lower dorsal region and about 51 ounces of pus was evacuated. I examined this pus under the microscope and found it to contain besides pus corpuscles, numerous Gluge's corpuscles, free fat globules and red blood corpuscles, separate, and in *rouleaux*.

On the morning of the 29th of October, the swelling in the right lumbar region was opened by an incision above the crest of the ilium, and 24 ounces of pus came out. At this time the patient was still very low, and he sank and died in a few hours on the same day. He continued to expectorate pus of the same kind till he died.

Post-mortem Examination.—Was made 18 hours after death. Body was emaciated, slight *rigor mortis* in the upper extremities, considerable œdema about the feet and ankles. The incisions into the abscesses were found and drainage tubes were *in situ*. On opening the body about 42 ounces of purulent fluid were found in the peritoneal cavity; no adhesions: 7 ounces of pale serous fluid in the left pleura which was adherent at the lower part posteriorly; the right pleura was adherent all round by old adhesions. The right lung was extremely congested and œdematous in the posterior part of the upper lobe and in whole of the lower lobe. The heart was quite healthy. The liver was in a cirrhosed condition, small, pale, puckered and nodulated, tough on section but flabby: its lower edge was three inches above the costal arch. It had not formed any adhesions to its surroundings, and weighed 1 lb. 10 ozs. Both the kidneys were very pale and flabby. Behind the right kidney and separated from it by the aponeurosis of the transversalis, was found a very large abscess cavity, which was nearly empty, communicating externally through the incision above the crest of the ilium. It contained, adhering to its walls, a small quantity of thick red pus, and extended downwards about two inches below Poupart's ligament, and upwards along the spine to about the 11th rib. The abscess distinctly occupied the sheath of the psoas magnus, which muscle was found very much disintegrated; and the bodies of the lower dorsal and upper and lumbar vertebræ, were found to be bare, eroded, and very roughened. On the left side a similar abscess cavity was found, also in the sheath of the psoas magnus, but it did not pass below Poupart's ligament. Upwards it extended to the upper border of the 11th rib along the spine. At its upper corner the wall was found to be adherent to the diaphragm, at a spot corresponding to a strong adhesion between the diaphragm and the left lung above. On removing together from the body the left lung, the diaphragm and a portion of the wall of the abscess, there was found an abscess about the size of an egg, in the lower and posterior part of the left lung, communicating through an opening of the size of a goose quill with the left psoas abscess. Inside this abscess in the lung was found a quantity of pus resembling hepatic pus, and pus of a similar character was escaping from the left bronchus. On both sides the 11th and 12th ribs were found necrosed, and the bodies of the lower dorsal vertebræ and a few of the lumbar vertebræ were eroded, rough and bare. In the wall of the psoas abscess cavities, were found several patches of caseated matter, pointing to the disease of the bones as being of a tubercular origin.

The above case presents, I think, several points of interest, to which I shall refer, very briefly. In the first place the condition of the liver as found at the *post-mortem* examination showed how very rapidly contraction and atrophy had taken place. Only about four months previously the liver had been found considerably enlarged, and probably in a condition of hypertrophic cirrhosis. Yet now, it was found very contracted and nodulated, and in weight only 1lb 10 ozs. As regards the appearance of the pus evacuated from the abscesses and that spat up from the lung, it had that light reddish colour which is so often found in the pus of liver abscesses, and which has been aptly compared in its appearance to anchovy sauce. This colour of hepatic pus is probably mainly due to an intimate admixture of blood with it, but I do not think it has been satisfactorily explained why this should be so common in the case of hepatic pus, and so uncommon in the case of pus from other sources, perhaps as the abscess spreads numerous small vessels and capillaries are constantly giving way, and each supplies a small quantity of blood. I have noted, moreover, that in the case of multiple pyæmic abscesses of the liver in which it is probable that the small vessels and capillaries become blocked up with masses of micrococci, the pus is invariably of a greenish-yellow colour. So like in this case was the pus to that so often found in a liver abscess, that several who saw it, including myself, were inclined to believe, that a liver abscess had burst into the lung. As stated above, the pus when examined microscopically was found to contain numerous red blood corpuscles freely scattered amongst the pus corpuscles.

There are numerous points at which the pus of a psoas abscess may find vent, but it seems a very unusual occurrence for it to burst into the lung. The most common place for it to point is in the groin, but Mr. Barker in Holmes' System of Surgery points out, that in cases where the patient is long in a recumbent posture, the pus may find its way upwards and burst into the pleura. It may also point in the lumbar region passing behind the quadratus lumborum or perforate this muscle, or in the buttock, or in the anterior abdominal wall, or beside the anus, or it may even pass down into the inguinal canal. And passing down further it may point in the back of the thigh, or at the knee, and Mr. Erichsen mentions a case where it pointed beside the tendo Achillis. Other rare sites in which a psoas abscess may burst, are, into the rectum, the bladder, or the peritoneal cavity, and one case is on record in which it opened into the aorta. But I have not seen any instances recorded of psoas abscess discharging into the lung as happened in this case. From the appearances which were observed after death it would not be easy to say, where the disease of the vertebræ had begun; but from the history it is very probable, that it started in one of the lumbar vertebræ, in which case probably the disease of the ribs and lower dorsal vertebræ was secondary, the pus having passed upwards; or it is possible, it may have begun in both places at the same time.

These, then, are, I think, the chief points of interest connected with this case, and two practical lessons to be learnt from it are—(i) not to place too great reliance on the appearance of the pus in diagnosing a liver abscess; (ii) we cannot altogether exclude the possibility of a psoas abscess in sudden escape of pus from the lung. In the vast majority of cases, a psoas abscess points in the groin just below Poupart's ligament.

DR. K. C. BOSE, THE PRESIDENT, in commenting on this interesting case recorded by Dr. Drury, drew attention to the cirrhotic condition of the liver and said, that one would naturally have expected to find it in a condition of amyloid change in a case like this, of long continued and exhausting suppuration.

DR. MURRAY then read a paper on—"A case of Pelvic Hæmatocele."

The comparative rarity in this country of cases of Pelvic Hæmatocele has induced me to bring before the Society this evening, the notes of a case that occurred in my hospital practice a short time ago. It is an extremely interesting case from several points of view, and for this reason I hope you will hear me patiently, if I go into it somewhat in detail.

As you are all well aware, pelvic hæmorrhage is of two kinds—

(1). Intra-peritoneal, where the blood is effused into the pelvic peritoneum. This is true hæmatocele and the commonest form. (2). Extra-peritoneal, or hæmatoma, where the effusion occurs beneath the peritoneum, around, and usually at back of the uterus.

The case which I now bring before you belongs to the second variety, the tumour having been sub-peritoneal and encysted, so that strictly speaking, the title of my paper should have been pelvic hæmatoma and not hæmatocele. The latter is, however, the generic term for bloody formations in this region.

In considering the etiology of the disease we find, that it is most common in young vigorous women between the age of 25 and 35, when in full sexual and menstrual vigour. The predisposing causes are profuse menstruation, violent exercise as in this case during menstruation, violent coitus while menstruating, varicose conditions of the sub-peritoneal veins, purpura, scorbutus, and the condition of hæmophilia.

The symptoms are usually of an alarming nature, and resemble intestinal obstruction and even irritant poisoning. The most marked phenomena are shock, severe abdominal pain, vomiting; small, and almost imperceptible pulse; coldness of the extremities, pallor, and, in fact, collapse. The diagnosis is by no means easy, even when the tumour is early discovered, as it may be mistaken for a retroverted uterus, a parametric effusion, a uterine fibroid, cystic formations in Douglas' pouch, or effusions into the broad ligament. In the case before us, the first diagnosis was intestinal obstruction, then parametritis, and it was after the patient had been a very considerable time in hospital, that its true nature was suspected by Dr. Crombie, who very kindly saw the case in consultation with me. I had never before seen a case of hæmatocele, and this disease never struck me, in my efforts to diagnose it.

The following is the history of the case—

The patient a well-developed, married European lady, *æt* 25, was admitted to the Howrah Hospital at 11-30 A. M., on the 24th of May last, in a very critical state, suffering from very severe paroxysmal pain in the abdomen, persistent vomiting, great restlessness, and constipation. She was in a state of shock or semi-collapse with a small thready pulse, cold extremities, sunken eyes, and extreme pallor of the countenance. She was a big, stout, healthy-looking woman and the mother of five children. She had alaways menstruated regularly, and her menses had commenced just before her present seizure. She admitted having partaken to excess of mangoes and other fruits, and under the impression, that this indigestible surfeit was the cause of her troubles, she took two full doses of castor oil but without effect, the bowels remaining obstinately constipated. On the same day as she ate the fruit and shortly after her menses come on, she jumped over a partition screen in her verandah and strained herself. She afterwards attributed her symptoms to this jump, but it was only after she had been a couple of days in hospital, that she thought of telling us about this important point in her case. As the day advanced her symptoms became more and more urgent, and in the evening thinking a laparotomy might be necessary I sent for Dr. Raye, who very kindly came and saw her about 9-30 P. M. When he arrived, her pulse was barely perceptible and the temperature sub-normal, but the abdomen, though full was fairly placid and only moderately tympanitic. No tumour could be felt on palpation, and percussion was resonant all over. At Dr. Raye's suggestion we washed out the stomach, gave a copious enema, and introduced the long rectal tube with the result, that a considerable quantity of flatus came away, and relief followed. The absence of extreme tympanitis and abdominal distension, and also of hiccough and stercoraceous vomiting, contra-indicated the operation, although everything was kept in readiness. Next day she was somewhat better, her pulse improved, and the collapse gradually disappeared. On the 26th of May, her temperature which had been hitherto sub-normal rose to 101°F and scarcely ever again descended to normal during her stay of two months in hospital. This is her temperature chart, and I pass it round, so that you may see the grave nature of the case as indicated by the fever.

On the 27th, the bowels at last yielded to medicine and enemata, and she passed several loose motions. On the 31st of May, she had another syncopic attack, attended with much abdominal pain, vomiting and shock, and on the 1st June a tumour was felt in Douglas's pouch simulating a retroverted uterus. There was a fœtid brownish discharge from the vagina, which felt hot and inflamed. She complained of pain referred to the fundus uteri. A few days afterwards on making a careful examination, I found the uterus enlarged and tender, immobile, and surrounded by a boggy swelling. Inflammatory mischief in and around the womb, metritis and parametritis was suspected, the temperature having at the same time exhibited a fresh and sudden rise for which she was treated.

From this time the patient's condition remained little changed for about a month. Some days she was better, on other days worse, with more or less constant pyrexia and irregularly recurring paroxysms of pain in the abdomen, nausea and vomiting. The pelvic swelling gradually enlarged, until early in July it extended as high as the umbilicus and occupying the entire hypogastrium. On abdominal palpation it felt as hard as a board, but on bi-manual examination with one finger in the vagina, a distinct fluctuation could be felt in the mass, an impetus being readily communicated from the apex of the swelling in Douglas' pouch to its base at the umbilicus. On the 7th of July she was attacked with rigors and her temperature rose to 104.°F. Her condition was now critical, Dr. Crombie kindly saw her in consultation, and after a careful examination and enquiry, concluded, that the case must be one either of pelvic cellulitis or of hæmatocele, most probably the latter. The history of violent exercise—taking a jump while menstruating, and urgent initial symptoms of pain, collapse pallor and shock, all pointed clearly in this direction. And I now myself felt convinced, that Dr. Crombie was right, and that it was a case of hæmatocele, the woman's history and symptoms corresponding accurately with those given in the text-books.

It was now decided to open the fluctuating mass from the posterior *cul-de-sac* of the vagina, and on the 10th of July both Drs. Raye and Crombie were kindly present for the operation, which was satisfactorily performed by means of a Paquelin's thermo-cautery. Owing to great depth of the tumour beyond the upper limit of the vagina, considerable difficulty was experienced in getting at it; but, after thrusting the cautery steadily upwards and forwards for several inches, while the base of tumour was pressed downwards with the other hand on the abdomen, our efforts were rewarded by a sudden rush of fœtid, dirty, reddish-brown discharge, consisting of blood decomposed, and blood clot mixed with pus. A large drainage tube was then inserted after some little trouble into the cavity which rapidly emptied itself, and the abdominal tumour then collapsed and disappeared. The cyst was freely washed out with bichloride of mercury lotion—1 in 1000—large pads of absorbent antiseptic cotton were secured by a bandage and placed over the vulva to receive the discharges. Next morning there was a further escape of highly putrid matter and large decomposed clots weighing about 2lbs. Fears were entertained of a fatal issue from septicæmia owing to the existence of such a large putrid cavity in the vicinity of the uterus. However, what with constant changing of the dressings,

scrupulous cleanliness, and a free use of antiseptic injections, the discharge gradually became aseptic, the parts took on a healthy action, and the woman made a rapid and complete recovery. The fever gradually decreased and she was discharged on the 28th of July, feeling quite well. I must not omit to mention a rather serious complication which occured as a result of the operation. On the third day after it was performed, fæces were observed to come away suddenly from the vagina, and an opening into the rectum could be clearly felt high up beyond the vagina. The eschar of the cautery had involved the coats of the bowel, and when the slough had separated, a fistulous communication was formed.. This was very disappointing, as it was feared the condition would remain permanent, the fistula being too high up to be remedied by a plastic operation, but fortunately the fistula closed up in a very short time leaving no traces behind. This fortunate result was no doubt due to the fact, that the implicated portion of bowel was in contact with connective tissue, and not with mucous membrane, so that, during the cicatricial contraction of the sinus caused by the cautery, the aperture completely closed.

DR. RAYE said, that he had seen the case in the early stage and noticed the curious resemblance to early intestinal obstruction; but this condition was contra-indicated by the absence of tympanitis. At that time, his impression was, that the case was one of early general peritonitis. Pelvic hæmatocele, though common in the female, is a rare occurrence in the male subject; but recently he had such a case in his wards, and as the course of the case was unusual, he would relate it briefly. It was in a middle-aged male with a tumour occupying the left iliac fossa. Cystic degeneration of an undescended testis was suspected. Laparotomy was performed; a large pelvic hæmatocele was discovered, washed out, drained and dressed as usual. The patient did fairly well, and the wound closed; but suddenly, a fæcal fistula formed and fæces escaped through the wound. The patient was extremely low and became rapidly worse. His friends removed him to the banks of the Ganges in a moribund condition for the last rites of the Hindu religion; but, strange to say, instead of dying, he made a good recovery and the fistula closed of itself.

The main features with regard to these cases were (i)., that extra-peritoneal hæmatocele, sometimes comes on gradually, and not necessarily, as the text books tell us, suddenly. (ii). That nature always endeavours to expel the fæces. (iii). That fistulæ frequently close of themselves without artificial interference. (iv). That pelvic hæmatocle are liable to occur in the male subject.

DR. GREEN remarked that a rectal examination was very serviceable in the dignosis of pelvic hæmatocele. It was very interesting to note here, that this large suppurating cavity opening into the vagina had closed naturally, and that the case eventually proved a perfectly successful one. At the present time, gynæcologists were divided in opinion as to the operative treatment of the extra-peritoneal variety. Some recommended laparotomy and drainage, while others advocated incision and drainage through the vagina.

MISS STALEY M.B. (Lond) enquired, whether large doses of alcohol was used in the after-treatment of this case. She said, at the Rotunda Hospital, Dublin, 12 to 15 ounces of alcohol daily were given in cases of large septic cavities with an exhausting discharge, and proved very successful.

After a further short discussion the meeting dispersed.

Current Medical Literature.

THE PARASITES OF CANCER.

FOA (*Centralble. f. Bakt.*, August 9th, 1892), has examined seventy carcinomatious growths, mostly from the breast, and has only four times seen bodies within the cells which could be certainly described as parasites. The developmental stages which can be seen, the bladder-like appearance, the regular striation of the capsule, the segmentation of the body, the presence of central corpuscles—these are all arguments in favour of the parasitic nature of the cell contents. The author observes that it often happens, that out of many sections only very few present these bodies; and further, that they may occur only in a portion of any given section. Reviewing the work of Soudakewitch, Foá states that he is by no means of opinion that all the structures (found enclosed in cells) which this author describes are parasites, but some of them are identical with bodies regarded by him (Foà as parasitic). The bodies found by Stroebe and Podwyssozki in cancerous cells occur also according to Foà, in tissues not cancerous and not of new formation.

THE RELATIVE VIRULENCE OF MICROBES FOUND IN WOUNDS WHICH HEAL BY FIRST INTENTION.

Büdinger (*Wien. klin. Worch.*, No. 22, 24, 25, 1892) describes some experiments undertaken in Billroth's clinic, in order to test the reliability of certain methods of wound treatment. As regards wounds healing by first intention, it is certain, that any microbes that are found in them have come from the air, and have settled there during the operation. They have been able to resist even the floods of antiseptics often employed; they appear even to be capable of multiplying there. It is, in the author's opinion, practically impossible to talk of the treatment of wounds free from microbes. No method has been devised which will prevent the fall of microbes on to a wound during operation, or will kill them and prevent them from developing there. However, in the case of a clean wound, neither pathogenic nor non-pathogenic microbes can prevent it from healing by first intention. Now, are the microbes found under these circumstanees—the pyogenic staphylococci—virulent or non-virulent? The author's inoculations, made on his own forearm, show that each of the varieties commonly found under these circumstances (S. albus, S. aureus, and S. citreus) is actually virulent, and there is no doubt that the so-called "traumatic fever," sometimes accompanying even "aseptic wounds," is due to the absorption of some of the above-named microbes—*British Med. Journal.*

THE SUCCESSFUL TREATMENT OF TUBERCULOSIS OF THE LARYNX, WITH MODIFIED TUBERCULIN.

Dr. MAX Thorner, of Cincinnati, O., says that tuberculosis of the larynx was considered until about twelve years ago an absolutely incurable disease. Since that time a number of competent observers have shown that in a very small number of cases a cure may be obtained. Koch's tuberculin had not done for the larynx what had been expected. In fact, the effect of the lymph was, in a great many cases disastrous. The laryngeal affection did mostly not improve, and in some cases tracheotomy became necessary. Since about six weeks,

experiments had been carried on by the author with Hunter's modification of tuberculin, and whilst the number of cases, two, was too small, and the time of observation as yet too limited to arrive at any definite conclusions, the results obtained so far were very encouraging. In both cases the initial dose was two and a half milligrammes, increased in one case gradually to 100, in the other to thirty-five milligrammes. In the first case the temperature arose only once to 100·4 ; at all other times, as well as in the second case, it ranged steadily between 98° and 99·6°. The local improvement was pronounced in both cases; swellings decreased in size; superficial ulcers healed. At no time was there any severe reaction, neither locally nor generally.—*Lancet Clinic.*

THE FIRST SIGNS OF LOCOMOTOR ATAXY.

According to Prof. Fournier, the first symptoms of ataxy may be classed as follows :

1. Sign of Westphal.
2. Sign of Romberg.
3. The " Stairs" sign.
4. Crossing of the legs.
5. Walking at the word of command.
6. Standing on one leg.

1. Westphal's symptom is well known ; it consists in the abolition of the pre-rotulian reflex, and is present in two-thirds of the cases.

2. Romberg's sign can be thus appreciated : The eye is an indirect regulator of motion ; it helps to correct deviations in walking and maintains the equilibrium. When a patient is suspected of incipient ataxy, it will often suffice to make him close his eyes when in the erect position to verify the diagnosis. In a few instances his body will oscillate, and if the malady is somewhat advanced he will be in danger of falling.

3. The " Stairs" symptom. One of the first and most constant symptoms of incipient locomotor ataxy is the difficulty with which the patient will descend stairs. If questioned closely on the subject he will say that at the very outset of his malady he was alawys afraid of falling when coming down stairs.

4. The manner in which a patient crosses his legs is often significant. In the normal state, a man when performing that act lifts one leg simply to the height necessary to pass it over the other, whereas in the affection under consideration he lifts it much higher than necessary, describing a large segment of a circle.

5. Walking at the word of command. The patient seated is told to get up and walk instantly. After rising he will hesitate, as if he wanted to find his equilibrium before setting off. If, while in motion he is told to stop short, his body, obeying the impulsion, inclines forward as if about to salute, or on the contrary, jerks himself backward in order to resist the impulsion forward.

6. The patient is asked to stand on one leg, at first with his eyes open, afterwards closed. Although man is not made for this position, yet he can balance himself pretty firmly for a little time. The ataxic will experience a great deal of difficulty, and will instinctively call to aid his other foot so as not to fall. If his eyes are closed he will not be able to stand one instant, and if not held would fall heavily to the ground. Such are the symptoms of incipient locomotor ataxy ; they will not be all present frequently, but they should all be sought for in order to avoid an error which might have grave consequences.—*Med Press.*

EXTIRPATION OF THE UTERUS FOR CANCER: A CONSIDERATION OF ULTIMATE RESULTS.

Dr. Charles A. L. Reed, of Cincinnati, presented to the recent meeting of the American Association of Obstetricians and Gynæcologists, a report of twenty-five cases of complete vaginal extirpation of the womb for cancer with only two primary deaths—one from shock and one from iodoform poisoning. Of the twenty-five operated upon but fourteen were of more than two years' standing, and hence were all that could be discussed with reference to their ultimate results. These fourteen were divisible into two classes of seven each, *viz.*, those in which the disease had existed for more than six months before the operation, and those in which it had existed for less than six months before the operation. Of the first class, *i.e.*, those of more than six months' (an average of 104 months) previous duration, all were dead ; of the second class, *i.e.*, those of less than six months' (an average of forty-four months) previous duration, only one has since died. One of the recoveries is of more than five years' duration. The conclusion from these figures is that cases of cancer of the uterus ought to be remanded for operation as soon as diagnosed. Dr. Reed looks upon total extirpation as the only operation to be advised or practised in these cases, the primary mortality from which, in experienced hands, varies from 5 to 8 per cent.—*Lan. Clin.*

THE TREATMENT OF AORTIC ANEURISM.

It is to be hoped that the ingenuity and perseverance shown by surgeons and physicians in their attempts to cure aneurism of the large arteries will be eventually successful. The history of the therapeutics of this trouble is extremely interesing, but also very disappointing. The ancient and heroic methods of ligation illustrated how near a bold surgeon could get to the heart without killing the patient at once ; the operations were successful, perhaps, but the patient died. The attempts of surgeons have in late years been directed mostly to some method of producing mechanically coagulation of the sac. At first, the galvanic current was tried, then foreign bodies, as wire or catgut, were introduced. Not long ago, Macewen advised the practice of scratching the inner surface of the sac with needles. A combination of the galvanic current and long wire has been tried several times. In the *American Jour. Med. Sciences* for October, Dr. D. D. Stewart reviews the results of this mode of treatment and contributes a case of his own, making a total of eight. Of these eight, six died and two were improved or cured. In most of the six fatal cases the operation was not attempted until the patient was in a hopeless condition. Furthermore, Dr. Stewart shows that the technique

has usually been imperfect, and his observations lead one to hope, that with greater experience and skill we may yet be able to relieve many heretofore hopeless cases. Dr. Stewart advises the use of silver wire in preference to steel, soft iron, or catgut. The wire should be fine and should be drawn just sufficiently hard to be readily passed through the canula, forming spirals in the sac. It is believed that six to ten feet of wire are sufficient. A strong galvanic current of fifty to seventy miliampères should be passed through the aneurism for an hour, the anode being attached to the intra-aneurismal coil.—*N. Y. Med. Record.*

PATHOLOGICAL ANATOMY OF UNCONTROLLABLE VOMITING IN PREGNANCY.

Lindemann *(Centralb. f. allgem. Path.*, August 20, 1892), records the morbid conditions found by him in a fatal case of this affection. At the necropsy, the liver and kidneys were seen to be degenerate here and there, and there was found noteworthy enlargement of the spleen. All other organs were healthy; the wasting of the body was inconsiderable. Microscopically, changes were found in certain nerves, in the liver, spleen and kidneys. The nerves—phrenic and vagus—were in a state of parenchymatous nephritis. In the liver, spleen and kidneys, fatty changes of the cells, with cloudy swelling, and in some parts coagulation necrosis, were observed; the kidneys were most affected. Similar conditions, indicative of advanced degeneration, existed in the liver and kidneys of the fœtus, the kidneys being the organs most diseased.

Lindemann observes, that a theory of inanition is inadequate to explain neuritis, splenic enlargement, and profound renal changes, such as occurred in this case—in which, as a matter of fact, but slight wasting of the body was noted. The conditions observed, resemble those found in cases of chronic poisoning or of infectious disease, and the author is disposed to explain them upon a theory of auto-intoxication.—*British Med. Journal.*

BILIOUS HEADACHE AND ITS TREATMENT BY MASSAGE.

Dr. A. Symons Eccles, in a paper recently read before the Section of Pharmacology and Therapeutics of the British Medical Association, stated that the locality of the headache appears to be identical with the distribution of the nerves in connection with Arnold's branch of the pneumogastric,- the irritation of the gastric fibres being reflected or referred to the sensory fibres of the pneumogastric in the head (auditory branch). During the paroxysm, Dr. Eccles always observed dilatation of the stomach, and absence of peristalsis in the stomach and intestines.

The treatment suggested for this condition was:

(a) Dietetic, to avoid giving the stomach and liver more work than is absolutely necessary.

(b) Rest, in the incumbent position, to avoid overtaxing the nervous system.

(c) Massage of the abdomen, to favour circulation through the liver and gastro-intestinal tract, to mechanically propel their contents onward, and to increase the muscular action of the organs, at the same time improving their secretory power.

(d) General massage, to aid the nutrition, generally of the tissues, and induce rapid interchange between the tissues, blood, and lymphatic system.—*College and Clinical Record.*

ENCEPHALOMA OF FOOT, AS A RESULT OF INJURY, OPERATION: RECOVERY.

REMARKS BY SURGEON M. J. T. J. BLANCARD, CIVIL SURGEON, SOUTHERN SHAN STATES.—Louka, a young Toungthoo, aged 26, male, by occupation a cultivator, came under my care on August 1st, 1891, for a growth on the sole of the right foot. He had, it appears, first noticed a small "pimple" on his sole, which he pricked with his knife about four years ago. He said "pimple" became inflamed and ulcerated: after a while the inflammation subsided and left a small ulcer with indurated base, about the size of a pigeon's egg. Feeling better he went to his daily occupation *i.e.*, looking after buffaloes, meaning thereby walking through mud. But last April, the ulcer again grew painful and began to bleed on the slightest provocation, whilst it steadily grew larger' and hæmorrhage became more frequent and profuse, pain intense and shooting.

When admitted on August 1st, the tumor which occupied the whole of the anterior of two-thirds of the foot, presented a fungoid appearance with turgid, soft, tuberculated masses, full of blood interspersed with others of a more solid consistency, covered with a thin, offensive, non-purulent secretion. The young fellow looked cachetic to a high degree, and physical examination revealed no abnormality of internal organs. Glands in groin enlarged but not painful.

The case looked to me hopeless, reduced as he had been by frequent hæmorrhages, pain and want of sleep. I nevertheless decided upon operative measures as the only means of relieving the pain if not saving his life, from the agony from which he suffered. I therefore determined to amputate the foot at the ankle by Pirogoff's method.

On the 5th August, at 9 a. m., patient having been brought under chloroform, an incision from external malleolus across the sole to the same level on inner malleolus in a curved direction, having the concavity forward, was made, the os calcis being exposed, the periosteum was scraped back and the saw applied upwards and backwards, the saw was now removed and the posterior flap made, the joint opened, the malleolus sawn off so as just to remove the articular surfaces. The upper surface of tuberosity of os calcis was now cleared, periosteum pushed up and saw applied downwards and forwards so as to join the first, thus bringing the tuberosity in the anterior flap. Ligatures of flax were applied to the arteries bleeding slight; Esmarch's bandage having been applied over femoral in Scarpa's triangle. The wound was now sponged with a solution of carbolic acid (1 in 40), then sprinkled with iodoform, edges of the wound brought loosely together by alternate

sutures of silk and silver. Cold water dressing during the first 24 hours to arrest oozing from ends of the bones.

On the 6th, water dressing stopped, ligature tightened, wound sprinkled with iodoform, drainage tube introduced, a piece of lint placed and the whole stump wrapped up in cotton wadding. Temperature at 6 a. m., 103°. Temperature at 4 p.m. 102°. Pulse good. Respiration normal.

7th. Ligatures were removed, discharge purulent. Morning temperature 100°, at 12, 102°, at 4 p.m. 102°. Stump dressed with antiseptic solution, iodoform, carbolic oil, towel bandage and placed on McIntyre's splint.

8th. Morning temp. 99°; at 12 noon 102°; at 4 p.m., 102. continue dressing and bandage. Diet, milk, extract of meat; had a motion last night.

9th. Morning temp. 99·4; at 12, 102 and 4 p.m., 101; continue dressing and bandage, &c.

10th. Morning temp. 99; at 12, 100·4; at 4 p. m., 100·4 sutures were removed as discharge was profuse and fœtid. Stump was syringed out well with pot. permanganas solution and dressed with odoform and strapping. Towel bandage.

11th. Morning temp. 99; at 12 o'clock 99·4; at 4 p. m., 100·4; Stump granulating. Discharge diminished.

12th. Morning temp. 98·6; at 12 98·6; at 4 p. m., 98·6. Discharge less. Stump granulating, appetite good, no pain in stump; continue dressing, &c.

13th. Feels better, slept well at night. Morning temp. 99·4, discharge less, no offensive smell, pain less, continue dressing, strap applied to prohibit the dragging of the gastrocnemius. Temp. at 12 o'clock 99·4 at 4, p.m. 99.4.

14th. Morning temp. normal, at 12 o'clock normal, at 4 p.m. normal. Wound granulating, slept well at night. Bowels regular, appetite good.

15th. Temperature normal, bowels opened, no pain, tongue clean.

16th. Temp. normal, not much discharge and smell.

REMARKS.—From the 16th, till his discharge, two months after, patient made a steady progress, and when discharged could walk without any help on the bare stump, but owing to a very slight shortening (about 1 inch), I supplied him with a leather covering to which was attached a wooden heel.

The interest about this case is the origin of the tumour which apparently from a simple ulcer constantly irritated by dirt and mud, assumed a malignant type. Family history, both direct and collateral relations healthy, he himself having been previous to his illness in robust health: secondly, about the extremely anæmic state in which patient was at the time of his admission. The anæmia having been caused by the constant bleeding which took place from the ulcerated surface in six months, I was therefore very uncertain as to whether operative measures in such a case would not lead to complications of a dangerous nature, and the improvement which took place after the operation was truly wonderful. From all things taken into consideration, I firmly believe, that the disease was radically cured; and that though minus a foot, the patient will do very well with his stump.

MICROSCOPICAL EXAMINATION.—Under the microscope a fresh section presented a collection of small cells surrounded by very thin and delicate intercellular normal vessels, somewhat scarce in parts and numerous in others.—*Trans. Burma Br. British Medl. Assocn.*

RUPTURE OF THE UTERUS.

DR. PEDLEY read the following paper at the 9th Meeting of the Burma Branch British Medical Association.—I was called on the 19th instant by a Chinese midwife to a very poor Siamese woman, who was supposed to be in the first stage of labor of her second pregnancy. The midwife said, she was having some uterine pains and the child was not in its right position.

I found the os uteri high up and no signs of dilatation, the fœtus was lying across the abdomen with its head to the right, it was easily shifted round and its head brought into the pelvis by external palpation.

I recommended that she should go to the Dufferin Hospital for her confinement, seeing that she was miserably poor and in a very dirty house. Her friends however declined and promised to call me again if it was necessary.

I heard no more of the case for five days, and thought that probably all had gone well without my assistance.

At midnight on 24th instant, I was again called to the patient, who was said to be then really in labor, but could not bring forth her child.

Patient was a fairly nourished woman, about 30 years of age; she was lying on her back on the floor of the same dirty house; labor had commenced about three hours previous to my arrival. The midwife said, that about an hour before I came, the patient had suddenly complained of feeling very weak, the pains and expulsive efforts ceased, and there had been no further progress. I found her almost insensible, in a cold sweat and small quick pulse, throwing her arms and head about, apparently in a dying condition from severe hæmorrhage; there was a great deal of blood on the floor. On placing my hand upon the abdomen, it seemed as if the uterus was extremely relaxed. The vaginæ was full of clots, the head which was presenting was high up and movable. I passed my hand into the vagina, and on amidst apparently a quantity of clots, felt the cord and found it pulseless; seizing the feet easily drew them down. I quickly delivered the legs and trunk, bringing the head into the vagina: still I could not feel any contraction of the uterus, so leaving the fœtus in this position I rose and quickly gave the patient a dose of ergot, and filled an irrigator syringe with hot water with the intention of giving a hot *douche* on completion of the delivery. Having hung the irrigator on a nail near at hand, I returned to the patient: she made no expulsive effort whatever, but on again feeling the abdomen I found the uterus had contracted well: at the same time I noticed a boggy tumor in the right flank and over the cæcum.

I withdrew the head without difficulty: it was followed by a rush of clots and liquor amnii. The child was a small one, though apparently of full time: it was quite dead. As the uterus was well contracted and there was little or no further

hæmorrhage, I again rose and gave the patient some sal volatile in water: she was still in a state of profound collapse. I used a little pressure over the uterus, and as it was small, thought to expel the placenta from the vagina. On examination I found it was not there and feeling along the cord found it did not enter the mouth of the womb. Again passing my hand into the vagina I followed the cord through a huge rent on the left of the passage into the peritoneal cavity, the boggy mass in the right side of the abdomen was the placenta and membranes which I withdrew.

The uterus had separated from its junction with the vagina, for two-thirds of its circumference. I had turned the child while loose in the peritoneal cavity, and after delivering the trunk and while I was preparing the *douche*, the uterus had resumed its proper position.

The whole thing occurred in less time than it has taken me to tell it. The urgency of the case, and the fact that the woman seemed to be sinking with hæmorrhage must be my excuse for not at first recognizing the true state of affairs; my first thought being to empty the uterus and secure its contraction. To describe our mistakes is often more useful than to chronicle our successes.

Of course, under the circumstances, nothing could be done to save the patient's life.

The abdomen should have been opened and the peritoneum thoroughly cleansed, and the rent closed; or the uterus removed, and the vagina closed to the peritoneal cavity. Such procedure might have been followed with some faint hope under the most favorable aseptic conditions. But here, such operations were impossible, the surroundings of the patient were of the worst possible description, her friends would not have consented, and if they had, would have ascribed her death to the operation.

The poor woman lived from Wednesday midnight till the following Sunday evening. I used mild vaginal injections of perchloride af mercury and kept her well under morphia.

I could ascertain nothing satisfactory as to the cause of the accident. The midwife in attendance was an intelligent Chino-Malay woman, whom I have frequently met at cases, and who had received some training at the hands of European doctors. If Burmese midwives had been about her, I should have ascribed the rupture to their usual methods of putting pressure upon the uterus which they often do with great violence. The midwife assured me, that nothing of the kind had taken place, and from our long acquaintance I have no reason to disbelieve her.

The rupture occurred in what seems to be the weakest portions of the parturient canal—the junction of the vaginal wall and the cervix, the most common situation for such ruptures to take place. Usually they are caused by mal-positions of the fœtus. In this case the child was not large and apparently had presented normally, the pelvis was roomy.—*B.Br.B. Medl. Assn.*

THE DISADVANTAGES OF A HERINA.

A curious incident has just been recorded of a well-known German Professor, who had arrived in Paris in order to spend a few days with some friends. While taking a walk along the Avenue de l'Opera, the hernia from which he suffered suddenly came down, and becoming strangulated, caused him great pain. The pain with which he was seized quite overcame him; he forgot altogether that he was in a public thoroughfare, and without any ceremony he began to detach the garments covering his lower extremities, with a view to compressing the hernial swelling. But, sad to relate, before he could proceed very far in these somewhat unusual manœuvres, he was pounced upon by two *gardiens de la paix* and quickly conveyed to the police station. Explanations were offered on his part; and under a merciful order of the Prefect of the Police, he was soon set at liberty.—*Med. Press and Circular.*

Handy Formulæ.

BALDNESS.

℞ Pilocarpinæ hydrochloratis, ... gr. v
Otto de rosæ, ... ♏viij.
Olei rosmarini, ... f℥iv.
Linimenti cantharidis, ... f℥iv.
Glycerini puri, ... f℥ij.
Olei amygdalæ dulcis, ... f℥ij.
Spiritus camphoræ, ... f℥iij.

M. Sig.: To be rubbed well into the scalp, night and morning.—*Ther. Review.*

ASTHMA.

℞ Ext. Euphorbiœ piluliferæ, ... ♏iij.
Nitro-glycerin, ... gr. 1-200
Sodii iodidi, ... gr. ij.
Potass. bromidi, ... gr ij.
Tr. lobeliæ, ... ♏ij.

M. Sig.: To make one dose, which may be doubled or tripled and used three times a day.—*Therapeutic Gazette.*

J. A. DIGGLE, L. S. A., of LONDON, Eng. reports two cases of cerebral mischief in young children, caused by school-work, happily relieved by the exhibition of bromidia.

CHRONIC CONSTIPATION.

℞ Aloin,
Ext. nuc. vom.
Ferri sulph.
Pulv ipecac.
Pulv. myrrh.
Pulv. saponar. ... ... aa gr. ss.

Mr. ft. pil no. i.

Sig: One pill before each meal.—*Giorn. dt farmacia e di chemioa.*

Liegeois recommends for Dysmenorrhœa

℞ Chlorhydrate of ammonia, ... 300 grms.
Water, ... 6 grms.

M. Sig.: A dessertspoonful night and morning, before the arrival of the period.—*Med. and Surg. Rep.*

THE LEPER ASYLUM COMMITTEE.—DR. Sandel of Calcutta, has been elected a member of the Leper Asylum Committee, *vice* Mr. P. Pundit, deceased.

Medical Schools and Colleges.

HONGKONG
COLLEGE OF MEDICINE FOR CHINESE.

Presentation of diplomas by Sir Wm. Robinson.

Through the kindness of Dr. John C. Thomson of Hongkong, we are able to place before our readers the record of the work done at the Hongkong College of Medicine, under the skilful and energetic management of the Medical Staff of the College. The first graduation took place a short while ago, and a list of the prizes and diplomas gained by the students of the College, were presented to them by His Excellency Sir William Robinson K.C.M.G., who presided, and among those present were the following :—Mr. Fielding Clarke, Chief Justice, Rector of the College; Dr. Cantlie, Dean of the College, Hon. E. R. Belilios, Hon. J. H. Stewart-Lockhart, Registrar-General, Hon. Dr. Ho Kai, Dr. Chalmers, Mr. J. J. Francis, Q.C., Dr. J. C. Thomson, Secretary to the College, Mr. Hugh M'Callum, Mr. Charles Ford, Major-General Gordon, Mr. H. E. Wodehouse, Rev. Bishop Burdon, Lieut. J. T. Sterling, *Aide-de-Camp* to His Excellency, Lieut. Strick, Dr. Jordan, Dr. Carvalho, Hon. T. H. Whitehead, &c. The audience included a large number of Ladies.

Dr. Thomson said—Before Dr. Cantlie presents the students for the Diploma of the College, I have to ask Your Excellency to present the prizes which have been gained by the various students. The prizes have been awarded on the results of the professional examinations. The first student in each list has a prize, and in some lists two students came so close that two prizes were awarded.

The prizes were then presented by His Excellency, the list of winners being :—

Surgery—Kong Ying Wa, Quain's 'Dictionary of Medicine.'

Medicine—Sun Yat Sen, Tanner and Meadow's 'Diseases of Infancy and Childhood.'

Midwifery—Sun Yat Sen, Newman's 'Surgical Diseases of the Kidney.'

Medl. Jurisprudence.—Kong Ying Wa, Wood's 'Illustrated Natural History of the Mammalia.'

Hygiene and Public Health—Sun Yat Sen, Bowlby's 'Injuries and Diseases of Nerves and their Treatment.'

Materia Medica—Wong I Ek, Wilson's 'On the Continued Fevers.'

Physiology—Wong I Ek, Osler's 'The Principles and Practice of Medicine'; Chan Man Shiu, Loomis's 'Lectures on Fevers.'

Pathology—Wong I Ek, Manson's 'The Filaria Sanguinis Hominis.'

Chemistry (Sen.)—Wong I Ek, Winckel's Midwifery; Song Chong Chai, (Jun.) Heath's 'Clinical Surgical Lectures.'

Osteology—Hsu Tsak Tsau, Cantlie's 'Naked Eye Anatomy;' Song Chong Chai, Cook's 'Tablets of Anatomy.'

Botany—Wong I Ek, Ewart's 'The Bronchi and Pulmonary Blood vessels,' Wong Enoch, 'Thomson's Zoology.'

The Dean's Speech.

The Dean said—The distribution of the certificates of license to practise medicine, surgery and midwifery, which Your Excellency, on behalf of the College, has now to deliver to the young men presented to you, is an event of more than ordinary interest. The Licentiates are the offspring of a work which several of us have been engaged in for the past five years; and which only to-day reaches its first stage of development. But still more it marks an era in the Institute from which these young men emanate, inasmuch, as they are the first recipients of its qualification. Older Institutions have the reward of yearly sending forth its young Graduates, but owing to our youth we have had no such satisfaction. For five long years we have had to plod on in determined silence, with only this red-letter day looming somewhat mythically in the future. The College of Medicine for Chinese was inaugurated in this Hall in 1887, at a large public meeting under the auspices of the then Acting Governor, His Excellency General Cameron, C. B. By his generous aid and wise counsel the promoters of the College were encouraged in their efforts, and every facility provided to forward their wishes. The first public event of His Excellency Sir William Des Vœux in this Colony, was in connection with the College, and his ready help was at all times welcomed and appreciated. More recently still His Excellency General Barker forwarded the interests of the College, with all the power of his official position. It has fallen to your lot, Sir, to see the result of the work commenced and fostered under the auspices of your distinguished predecessors, and the fact of Your Excellency's presence here to-day proves, that you regard their efforts with approbation.

A plea for support.

Whilst extending to you a hearty hand of greeting, may we hope, that it is an augury of Your Excellency's intent to continue the support so freely given by your distinguished predecessors? That we need that support is more than ever apparent, and whilst Your Excellency holds the reins of office, our dearest wish is that you may interest yourself in its welfare, that you may aid its Licentiates, and that you may exercise the prerogative of your high position, to enable an endowment to be obtained for its support (cheers). Although we appear to-day in all the clamour of publicity, you must know that we have had many an anxious moment concerning the maintenance of the College. We have had many rebuffs and many failures. In fact, the history of the College so far has been the dogged determination of some *versus* the apathy of others. As usual, the men with a will and purpose have won, and now that the first stage as testified to-day is realised, we have no anxiety as to the future.

Chinese characteristics.

The lack of interest has not been with the students of the College. Anyone who knows the Chinese even but slightly, is well aware, that steadiness of purpose is perhaps their most constant characteristic. In their national history, be it in the overthrowing of usurping rulers, or beating forth their enemies, their constancy of purpose has always prevailed.

Time shakes them not from their intent nor weakens the ardour of their understandings. The passing away of one generation but endows the theme with the sacred fire of heredity; the register of a century past in any attempt but affords time for its development and growth, and brings it into fuller fruition and purpose. It is with the sons of such a people that we have to do, and having once taken up a subject, be it science or war, it is not in their nature to retract.

THE MANAGEMENT.

Nor are the members of the Court of the stamp of men who are easily driven from their fixed purpose. When I mention the names of Sir James Russel, our late Rector; Mr Fielding Clarke, our present Rector; Dr Chalmers, the Hon. E. R. Belilios, the Hon. Ho Kai, Mr Francis and Dr J. C. Thomson, it is at once apparent that the affairs of the College of Medicine, are in the hands of men who may be said to have gained their positions in life by personal merit, but more still by fixity of intent, by courage and by keeping their faces persistently towards attaining the goal of their ambition. It is by such men that the College has been brought thus far in the thorny career of its infancy, and with such men at the helm it is to-day launched into, let us hope a swelling ocean of youth (cheers).

THE TEACHERS.

The third element in the constitution of this educational body, the teachers, are however, the be-all and end-all of its existence. The struggle has been a long one, and the result of our five years' campaign has resulted in one death, eight retired and ten missing. The death, of Dr Young lost us a most valuable member of the Court, and created a vacancy in the Chair of Midwifery. Amongst the retirements were Surgeon-General Lewer and the whole of the officers of the Army Medical Staff, who owing to change of station have had to leave the Colony, and whose successors, not having been present at the birth and baptism of the College, have never taken so deep an interest in its work. Dr Manson, the first Dean, has been a great loss, but we know that though he has retired he is not disaffected. The ten missing constitute the heaviest item of our loss. They are composed mostly of those who had their names associated with important Chairs for a time, but who, when the hour for lecture came, found that their engagements would not permit of their undertaking the duties and dropped out, leaving us at the eleventh hour to manage as best we could. Some lecturers bravely tried conclusions with teaching various branches, but gave it up in hopelessness as the pupils did not respond sufficiently quickly. This Sir, has been our greatest difficulty. It has not been that we are homeless, and houseless, for the Committee of the Alice Memorial Hospital generously granted lodging; it has not been that we have been without money, for the teachers have done their work gratuitously, and books and apparatus have been supplied to the students by members of the staff. It is what we contemplated would be our difficulty, namely, disaffection and apathy, which has robbed us of many excellent men and caused us to stagger under a load which at times threatened to crush out hope and our very existence. And yet again, at this moment, on triumphant wing, and as we look down our list of lecturers and examiners, we may well be proud of the names we contemplate, and whilst regretting the loss of quondam friends and forgetting all grudges, we must remember the words of the Chinese proverb, that 'the gem cannot be polished without friction, nor man perfected without adversity' (cheers).

THE WORK OF STUDENTS AND TEACHERS.

The course of study pursued is exactly similar to that laid down by medical schools in Britain, and indeed we anticipated them, inasmuch as we set out with the intention of a five years' course, which only this year has become law at home. The appliances although limited are not deficient. In botanical work no more ample field or complete system of education could be enjoyed than that provided by the excellent botanical gardens in the Colony, and by the distinguished teaching of Mr. Charles Ford F. L. S. In Chemistry we lost the services of that valuable chemist and teacher, Mr. W. S. Crow, but Mr. Watson, with energy and ability, has fulfilled the duties of the Chair, in a manner we anticipated he would when elected. If ever philanthropy were practised by any two men it is by these gentlemen. They have taught these two purely scientific subjects, in a painstaking and capable manner. With the rest of us occupying teaching appointments, every hour we employ at our lectures and clinical instruction is a distinct professional gain—a means of our keeping our knowledge ripe. Without it, we would soon fall behind in the race; by it we are kept abreast of the times, whether it be in the rapid advancement of surgery, the specialities or the more purely theoretical subjects. But the teachers in pure natural sciences have no such reward. Their lectures are something added on to their daily employment and outside their professional necessities. Their scientific reputation is not thereby advanced, nor their time directly improved by their affording instruction to others.

THE ALICE MEMORIAL HOSPITAL.

To those of us engaged in the practical teaching of disease, no more sufficient field could be obtained than that afforded by the Alice Memorial Hospital, generously placed at the disposal of the College and its students by the London Missionary Society. This large Hospital more than fulfils the requirements of the most exacting board of studies in Britain, and all of the staff can testify to the fact, that no Hospital in Britain affords better opportunities or material for the practice of their profession. During the whole of their course the students have been daily in the out-patient room and wards. From their first entry until to-day, these Licentiates have performed the duties of dressers in the out-patients' room and wards, and assistants in the dispensary. What is usually relegated to the meagre periods of six months and three months respectively, our students have spent five years at, and the lecturers and examiners are quite well aware, that in medical knowledge, in the minor operations of surgery, in dentistry, in ophthalmology and as dispensers, our Licentiates have acquired a proficiency not to be attained by any students, with only the limit-

ed periods mentioned at their disposal. Therefore, Sir, in presenting these Licentiates to you to-day we come not humbly in an apologetic way, asking to be forgiven for lack of opportunity in that we have not done better; but we present them to you and to the world with our heads erect and with no apologies. We have taught them without pecuniary reward or extraneous help, and freely we hand our offering to the great Empire of China, were science is as yet unknown, where the ignorance of our own mediæval times is current, where the astrologer stalks abroad with the belief that he is a physician, where the art of surgery has never been attempted, and where thousands of women suffer and die by the charmed potions of the witchcraft practices of so-called obstetricians.

WHAT WILL BE THE FRUITS?

The general effect of the work done in the College, therefore, will be beyond this small island. Here and at the Treaty Ports, human suffering can be relieved by the most advanced methods known to the healing art, but these are but as chance flecks of ocean foam to the sands on the sea-shore, in proportion to the work to be done. It is only at the door of this huge Empire that science knocks. Respectfully, for she honors the occupants; decidedly, for she knows that in her right hand she brings health, well-being and comfort. What hope has she of entrance? Will she be told to approach by the back door? Not so; for the greatest man of the Empire is her well-wisher. Will she be allowed to practise her art on hirelings only? Not so; for the Emperor himself has succumbed to her influence. Sir, no other than Li Hung Chang, the Bismarck of China, is her Patron, and within the sacred precincts of the Emperor's Palace, European Medicine is welcomed and appreciated in the person of one of the graduates of the College of Medicine at Tientsin. Our Licentiates, therefore, go forth with the knowledge, that the heart of China has been probed. With that fact before them let us hope that they will not fall by the way but carry the profession of which they may well be proud into the uttermost limits of the Empire (cheers). Never was there so wide a field opened to medical science before. From Manchurian snows in the north, where the Amoor river holds its ice-bound course, to the banks of the Irrawaddy and Brahmapootra rivers in the south; from the Yellow Sea to the Snowy Mountains which rise beyond the fertile province of Sze-chuan, and far beyond Sze-chuan the lofty plains of Thibet rear a hardy Mongolian race: far on the Hindoo Koosh mountains where the Mongolians and Indo-Europeans face to face tread their lonely sentry round—over this enormous area with its millions of inhabitants is the field open to you young men who go forth to-day (cheers). Before you, are regions where the devotee of botany will find untrodden paths. By the rivers of Sze-chuan you will find the plants which your countrymen cultivate and export to supply the drug markets of China. Unclassified and unknown to Science it may be truly said they 'blush unseen on the desert air.' Their properties are but vulgar beliefs and their qualities but old wives' tales. Should you visit those regions you will bring back with you a host of new information, the stores you bring will be submitted to the botanist, the chemist, the physiologist, the therapeutist, and the practical physician. The leaves and roots from which a loathsome decoction of unstable character is now extracted and given for undiagnosed diseases with all the secrecy of demonology and witchcraft will be analysed to the full. The botanist will apportion their position in the vegetable world, the chemist will reduce their ingredients to a chemical formula, the physiologist will attest to their potency and their influence, not on a body of which like the Chinese he knows nothing, but as to whether this or that organ is affected, as to whether the nervous or vascular system is influenced by the adminstration of even the one-thousandth part of a grain. Its value to the world will be exactly known and its virtue, if any, proclaimed from the housetops. This is but one feature of the difference between the darkness and light, between the states of knowledge of China to-day, and what we hope it will be in China a hundred years hence. Think not that your rulers do not believe in Science. That most powerful of men, the great Li Hung Chang wrote in answer to a letter concerning the affairs of this College, that he hoped chemistry and anatomy would form a large and particular part of the training we meant to give. He did not say, as do the vulgar 'give us a wonderful cure,' but with an enlightenment which becomes a Huxley or a Tyndall, he asks 'give us science first aud all things possible may follow.'

WHAT WILL DRIVE THE MACHINE?

From whence is to come the motor power of this great work? Let me answer the question and say—England. No more creditable act in all the long list of her brilliant deeds could excel such an achievement. The crest we have adopted for this College is a dragon, and the quarterings of the Royal Standard of Britain. We mean this to be a national work; it is no mean attempt but one worthy of an Empire. The land of Harvey, of Jenner, of John Hunter, of Darwin, and of Lister, is surely entitled to be the teacher of the discoveries of its sons (cheers.) A few busy doctors and scientific men for five long years, have unbeknown devoted their time to commence this instruction. The light has been hid under a bushel and their light has not shone before men, but while asking for forgiveness for these sins of omission, we promise, that in future the touch of science shall illumine the land with a refulgence, which neither ignorance nor conceit can extinguish (cheers). In conclusion, Sir, I would commend this undertaking to Your Excellency's able care (cheers). To you as the Representative of England, we look to direct national attention to the possibilities of this important work.

PROPOSED CHARTER AND ENDOWMENT.

My fellow-colonists will help to the utmost of their ability. One of them, the Hon. E. R. Belilios, has offered to erect a building to be devoted to this end (cheers). Not, however, in a dark corner or on a rubbish heap is it our intention to allow such an edifice to be hidden. In justice to our enlightenment as Englishmen, we claim, that it shall be so placed, that all the world may know, that although English, we honor science, and are not merely the nation of shopkeepers some would have us

styled (cheers). Should your Excellency determine to carry through the foundation of such an Institution you will find local obstruction and difficulties. Technical obstruction from departmental heads (laughter); legal difficulties from the medical board; monetary tussles with a Legislative Council (renewed laughter). All those will have to be overcome and they can be overcome by bearing in mind the great principle—one is fighting for no other than the introduction of science and the art of medicine to China. Surely this princely offering of one of the Colony's foremost citizens is not any longer to be slighted or slurred. It is five years since the offering was first announced from this platform. Successive administrators have striven with the settlement of the question. All the conditions the donor imposed were, that the Government should give an equivalent in money or in land. The sites of land offered have been perhaps the handiest this crowded and congested state of the city allowed, but they were scarcely worthy of the donation or of the importance of the Institution contemplated. Mr. Belilios now offers a magnificent site and a spacious building, provided the Government endows the College with an equivalent sum of $40,000. This is the form of donation invariably followed in India. By it, the cities of India have been enriched and decorated with palatial educational establishments, each one an ornament to the country, a monument to the charity of the donor, and a permanent token of the divine mission of England. Your Excellency gave good hopes to a deputation of the Court some six months ago, that such a consummation may be hoped for here. Should you secure for us a Charter and Endowment, your reward Sir, will be the blessings of millions of people to whom you have brought scientific education, hygiene, and relief from suffering. Not yet will such blessings flow, but future generations will know how to honour the name of the man who brought them the enlightenment of science (cheers).

Diplomas were then presented by His Excellency to Sun Yat Sen and Kong Ying Wa, the former of whom gained his Diploma with 'high distinction.'

The following is the text of the Diploma:—

'We the Dean, Lecturers and Examiners of the College of Medicine for Chinese, Hongkong, hereby declare that....., having attended courses of lectures during a period of five years in the various departments of Professional study required by the College, has been examined, and has duly satisfied the Examiners in each of those subjects; that he is qualified to practise Medicine, Surgery and Midwifery; and that by Authority of the Court of the College he is hereby granted the title of Licentiate in Medicine and Surgery of the College of Medicine for Chinese, Hongkong (L.M.S.H.).

'In witness whereof we have hereto set our Signatures on this.....day of.....in the year Eighteen hundred and ninety....., being the year of the Chinese Cycle .....'

Appended to the diplomas are the following signatures:—Dr. Cantlie, Dean; Drs Bell, Cantlie, Carvalho, Chalmers, Ho Kai, Jordan, Requa, Thomson, Messrs. Ford, H. MacCallum, and Watson, *Lecturers*; Deputy Inspector-General Turnbull, R.N.; Staff-Surgeon Williams, R.N.; Surgeon-Major Robbins, A.M.S.; Surgeon-Captain Stuart, A.M.S.; Drs Hartigan and Marques, and Messrs Crow, Lucas, and Neidhardt, *Examiners*; and in name of the Court by Mr. Justice Fielding Clarke, *Rector*, and Dr. John C. Thomson, *Hon. Secretary*.

HOPEFUL SPEECH BY THE GOVERNOR.

His Excellency, who was received with cheers, said—Ladies and Gentlemen, I suppose that you will expect me to say a few words after the pointed reference made to me by the Dean in his most able and instructive speech. First I have to thank the Dean on your behalf for his very able address, and secondly I must thank you, in the name of the Governing Body of this College, for your attendance here to-day. Although the Dean has referred to the apathy which exists in this Colony with reference to this College I look upon the attendance here, considering the heat of the weather, as a very representative and numerous one (cheers), and I trust it may be regarded as an angury of better things, and that we shall, by our work and the sending forth of these young men into the midst of China, enlist your sympathies on behalf of this great Institution. I think there can be no doubt there is no ministry so nearly conected with Christianity as that of the Medical Profession, for you know the characteristics of medical men and the characteristics which pervade the gospel of Christ are pity, spmpathy, and love, and these are feelings which I am sure induce or ought to induce these young men to undertake the difficult work on which they have entered to-day, I do not know very much of the past history of this Institution, excepting what I have gathered from the Dean's address, but I understand that my predecessors took a great interest in it, and I may express my most earnest hope that I may be found not to take less interest in it than they have (cheers); and I trust, in the words of the Dean, it may be a very tangible interest indeed. In the last few words of his address he certainly laid upon my shoulders a very great responsibility—in fact, he put the Institution on my back entirely (laughter and cheers). He says, I shall meet with great difficulties from the Medical Board—I don't anticipate many there—difficulties from the Members of this Council, and diffiiculties from the Unofficial members of the Legislative Council (laughter, and Dr Ho Kai 'No.') Fortunately, we have two Unofficial Members on this Council—Dr Ho Kai and Mr Belilios—who is so noted for his munificent contributions to every good work (cheers.) There is no doubt that this is a very awkward time to come to the Legislative Council for an endowment.

THE COLONY'S FINANCES—A SECRET.

It has my most earnest wishes for success, but when I tell you I shall have to explain to the Legislative Council, that the revenue and expenditure have been in one case over-estimated and in the other under-estimated for 1892, and when I tell you a little secret that in 1893 we expect, I think, a surplus of $2000, it is certainly an awkward time to come to the Legislative Council and ask for an endowment of $40,000. But I do

not despair of meeting with success in my administration (cheers.) In every Colony in which I have been I have been particularly unfortunate to arrive during a financial crisis (laughter). When I arrived in Bahama I found the Government Officials had received no salary for three months, and that almost every policeman was in debt £40, £50 or £60 to people in the place, and when I left there, I left it with a surplus revenue of £6000 a year (cheers.) The same difficulty had to be faced in Barbadoes, and a similar in Trinidad, which thank God, I overcame. I therefore trust by economy (a cheer) and good government, that before I leave these charming shores in Hongkong I may be in a position to announce, that this endowment has been granted by a willing Legislative Council. In a matter of this sort the purse-strings are in the hand of the Unofficial Members of the Council. I have no doubt that we could carry this endowment by a Government majority, but in dealing with finances I have never taken advantage of that majority or spent any sum of money in any Colony which was not voted by the majority of the Unofficial Members (loud cheers). Therefore, if we can gain the sympathies of the Honourable Thomas Whitehead (laughter,—of course, we have Mr. Belilios and Dr. Ho Kai, and I think we my be sure of Mr. Chater—we may be able to present you with the $40,000 sooner than I anticipate (cheers), I think I have really nothing more to say than to congratulate the students upon the prizes presented to them and the two Licentiates for the very admirable way they have passed the examinations. You have a great example before you in the person of Dr. Livingstone, of whom you have all heard. His object was to go to China because it offers the largest field for Missionary and Medical enterprise, but by some means he went to Africa, where he made a great name, and his name will live for ever. He conceived for himself a noble and many sided purpose, such as you have before you now, and he carried it out with such courage and ability which entitles him to rank among the great and strong men, who single-handed have been able to influence human progress and advance christianity and civilization. That you, too, may follow in his footsteps and that this College, as shadowed forth by the Dean, may be a blessing to that large and populous country so close to us, is my most earnest hope and the earnest hope of the well-wishers of this Institution (cheers).

VOTE OF THANKS.

Mr. Fielding Clarke—Ladies and Gentlemen, the Dean in his kindness has assigned to me a task that is both easy and pleasant. It is very easy to make a proposal which you know everybody will assent to, and it is exceedingly pleasant to be made the mouth-piece of one's friends to return thanks for kindness received. I have the honour to move a vote of thanks to His Excellency the Governor for so kindly presiding on this occasion (cheers). You are all very well aware, that from his first arrival in this Colony, His Excellency the Governor has always the greatest and most sympathetic and most practical interest in every movement, and every Institution which he believes to be for the good of the Community or any Section of it (cheers), and I can assure him on the part of this College, of which I have the honour now to be Rector, that we are exceedingly obliged to him for the kindness and sympathy which he has displayed upon this occasion (renewed cheers). We can hardly expect that at a moment's notice, he should be prepared to accept a bill for $40,000 the moment it was presented to him, but I may say his remarks have buoyed us up with the greatest hope, that the magnificent prospect which the Dean has brought to your notice in his opening speech may at length through the help of His Excellency the Governor, be finally attained. I am sure that, the Governor recognises as a principle that the Government of this Colony should do their utmost to assist a Society that endeavours to help itself for the good of others; and we are all sure that, with regard to this College, His Excellency has our interests thoroughly at heart, and therefore, I have great pleasure in moving this vote of thanks (cheers).

Mr. Francis—Ladies and Gentlemen, I have been asked to second the proposal which the Chief Justice has made, although I think there is no necessity for doing so, as it will be readily and unanimously agreed to. I think we owe a most hearty vote of thanks to His Excellency for his kindness in presiding here to-day and the promise he has made us, that whatever he can do, he will do for the benefit of this Institution. You will agree with me, I am sure, when I say that the thanks we give him to-day for presiding—and for his promises (laughter)—is nothing compared with the vote of thanks we are prepared to give him, if at the end of his career in the Colony, he has succeeded—as he has also promised—in restoring the Colony to a sound financial condition (loud and prolonged cheering).

His Excellency—It seems hardly necessary for me to say more, than that I am extremely obliged for the the vote of thanks you have carried. I have made several promises to-day and I dare not make more for fear I fail in them, but those promises made I will endeavour to carry out (loud cheers).

ELECTION OF RECTOR.

Previous to the Presentation Ceremony, a Meeting of the General Council of the College was held, over which His Excellcy presided.

Hon. E. R. Belilios proposed and Mr Kong Ying Wa, one of the new graduates, seconded, that Mr Fielding Clarke, Chief Justice, be appointed Rector in succession to Sir James Russell, the late Chief Justice.

This proposal was unanimously agreed to.

Mr. Fielding Clarke returned thanks for the houour done him. He said—I trust I shall be at all times ready to do my utmost to further the interests of this Society. I need not say I feel a diffidence in accepting the post, but as you have been so kind to place your confidence in me, I feel I cannot do more than gratefully accept your kindness.

This was all the business.

EXAMINATION REGULATIONS.—All the Regulations of the Royal Colleges of Physicians and Surgeons of Edinburgh, and of the Faculty of Physicians and Surgeons of Glasgow, may be had *free* from the Office of this paper on application.

Vital Statistics.

CALCUTTA.—The total number of deaths registered in the town of Calcutta during the week ending 10th December, was 273, against 288 and 270 in the two proceeding weeks, and lower than the corresponding week of last year by 27. There were 12 deaths from cholera, against 34 and 19 in the two preceding weeks; the number was lower than the average of the past quinquennium by 15. There were no deaths from small-pox during the week, against *nil* in the previous week. There was one death from tetanus, against 4 in the previous week. The mortality from fevers and bowel complaints amounted to 102 and 31, respectively, against 102 and 47 in the preceding week. The general death-rate of the week was 3·05 per *mille* per annum against 310, the mean of the last five years. In the amalgamated area of the Suburbs, the total number of deaths registered during the week ending 10th December was 171, against 200 and 192 in the two preceding weeks, and lower than the corresponding week of last year by 26. There were 7 deaths from cholera, against 12 and 18 in the two preceding weeks; the number is lower than the average of the past 3 years by 24. There were no deaths from small-pox during the week, against *nil* in the previous week. There were 13 deaths from tetanus against 13 in the previous week. The mortality from fevers and bowel complaints amounted to 77 and 28, respectively, against 99 and 28 in the preceding week. The general death-rate of the week was 41·4 per *mille* per annum, against 61·8, the mean of the last three years. The general death-rate of the combined area is equal to 33·9.

BOMBAY.—The total number of deaths registered in Bombay, during the week ending November 29, was 473, giving a death-rate of 39·66 per annum per thousand, as against 25·12 the corresponding period of last year, and 24·90 the average over the past five years. The total number of births was 323 as against 303, the corresponding period of last year, and 337, the average over the past five years.

PUNJAB.—In the 45 large Municipal towns of the Punjab, during the week ending Saturday, the 5th November, 1892, 1,271 births were registered (693 males and 578 females), giving a birth-rate of 47 per *mille* of population; 2,747 deaths were registered (1,341 males and 1,406 females), giving a death-rate of 101 per *mille* of population. The record of death-rates of the Municipal towns of Tanda-*cum* Umar, Sirsa, Bhera, Ludhiana, Pind Dadan Khan and Batala were at the ratios of 283, 258, 183, 166, 163 and 157 per 1,000 respectively.

BANGALORE.—Population of Bangalore Town 80,285. Deaths during the week ending 11th Nov, 1892, males 12, females 18. Births, males 18, females 18. Population of Mysore City 74,048. Births during the week, males five, females two. Deaths, males 16, females 10. Five of the deaths in Bangalore were from cholera.

Medical News and Comments.

CHOLERA AND CONTAGION: SINGULAR EXPERIMENTS.—PROFESSOR VON PETTENKOFER, the eminent hygeist of Munich, has made known the general result of his study of the cholera epidemic at Hamburg. His experiences show that the contagion theory is not confirmed. It has been proved, he says, that local disposition is an indispensable condition to the spread of the epidemic; single persons may be disposed to cholera, but none are attacked who are not living in a place where the conditions are favourable to the disease. Thus the seclusion of persons coming from cholera-infected places is useless, and the public should be rendered proof against the disease—first, perhaps, by some such method as in the case of small-pox, and then by improving the sanitary conditions. This summer Dr. Pettenkofer and Herr Emerich, the bacteriologist, swallowed some comma bacilli without coming to any harm, both had diarrhœa afterwards; the *dejecta* contained myriads of the comma bacilli, but the experimenters had good appetites, felt well, and their organisms were not otherwise disturbed. Dr. Pettenkofer rejects the experiments on animals, saying that only experiments on human beings are of any use. He considers the late great rainfall as unfavourable to cholera, and says, that some anxiety may be felt should it be dry next year, as many cholera germs still exist, and they retain their virulence for two years. In Calcutta the cholera rises and falls with the rainfall, and it was the same in the Munich epidemic of 1873.

Full returns of the number of victims carried off during the last outbreak of cholera, as far as has been ascertained, have (the *Daily Chronicle's* St. Petersburg correspondent says) just been published. The total cholera mortality is said to amount to 220,112. The famine-stricken districts of the Caucasus seem to to have suffered most. In Astrakhan there were 7873 deaths; in Voronseh, 9468; in Viatka, 4440; in Samara, 14,962; in Saratoff, 18,992; in Tamboff, 8039; in the districts of the Don, 17,751; and in the Caucasus, 63,268. One of the saddest features of this terrible bill is the mortality among the doctors. During the past year half of the country physicians are said to have succumbed to spotted typhus alone, not counting those that died from the cholera and other diseases, the direct result of the famine. The number of peasants who died from typhus will probably never be accurately known; but he is assured by physicians that this disease claimed more victims than the cholera.

The *Globe* points out that the entire authority of trustworthy opinion, based upon only too valid reasons, supports the view that the most terrible of pestilential visitants has but retired into winter quarters, and is making preparation for a fresh outbreak and an attack in full force next spring or summer.

HINDOO LADY DOCTORS.—The first Hindoo lady elected on the scholarship of £50 a year, founded by Mr. Cropper at the Edinburgh School of Medicine, has just begun her studies

Her name is Miss Rose Govindurajulu. She has already studied and taken a Diploma in Madras, and has also acted as house-surgeon for some years at the Maharanee's Hospital at Mysore. The Mysore Government have not only allowed her two years' leave of absence for the purpose of securing a European Diploma, but have also given her a yearly grant to meet the remainder of her expenses. The first Hindoo lady who studied medicine in this country was Miss A. W. Jagaunadham, who (after studying for three years in Madras) came to the Edinburgh School of Medicine for Women in 1888, and obtained the Scottish triple qualification in 1890. For one winter session she acted as demonstractor of anatomy in Surgeon Square, and for a year after registration she held the post of Resident Medical Officer to the Edinburgh Hospital for Women and Children. In 1891 she returned to India, and is now House Physician at the Cama Hospital in Bombay, under Dr. Edith Peechey Phipson.

THE INTERNATIONAL MEDICAL CONGRESS, 1893.—The following Gentlemen have formed into a Committee for the purpose of furthering the English business of the Congress, which will be held at Rome next year: Sir J. Paget, Bart.; Sir Andrew Clark, Bart.; Mr. Thomas Bryant; Sir Dyce Duckworth; Mr. Huchinson; Sir George Humphry; Sir W. MacCormac; Sir Henry Acland, Bart.; Professor Clifford Allbutt; Sir R. Quain, Bart.; Mr. J. N. Dick, C.B.; Sir W. A. Mackinnon, C.B.; Sir Joseph Fayrer K.C.S.I.; Dr. Charles Taylor; Dr. G. H. Philipson; Dr. W. Withers Moore; Sir W. Turner; Professor Michael Foster; Dr. T. Watt Black; Mr. H. Power; Dr. Shirley Murphy; Mr. Gordon Brown; Dr. Cheadle; Dr. Saundby; Dr. Dreschfeld; Mr. Mitchell Banks; Mr. Teale; Mr. W. F. Favell; Dr. E. Long Fox; Sir Joseph Lister, Bart.

SIR ANDREW CLARK ON VIVISECTION.—In opening the new buildings of the Bristol Medical School and Faculty on Nov. 16, Sir Andrew Clark, referring to the question of vivisection, said the law of vicarious sacrifice was a law of the physical, mental, moral, and spiritual life, and no living sentient being could escape from its operation. It was plainly the appointment of God, and if one animal might not be used in the service of another and higher animal, God was neither just nor loving. Experiments performed upon animals, with due care, for a high purpose, in a reverent spirit, and with results in good transcending any suffering inflicted, were not cruel. Cruelty lay in the wanton infliction of suffering, and in the performance of experiments for a low end or carelessly designed, or barren in results of good justifying the suffering, if any, which had been inflicted. It was folly now to argue the question whether experimental research had contributed to the advancement of theoretical and practical knowledge, for it was certain that no substantial advance had been made in physiological knowledge, and none in the departments of midwifery, surgery, and medicine without the assistance of this method of research. (Cheers.) Had they the right to cause other creatures to suffer in their service? The right had always been everywhere assumed and practised. They inflicted suffering upon animals for their convenience, and not for pleasure and for the gratification of vanity. In the pursuit of the balance of power in Europe they had sacrificed the lives of hectacombs of men and ruined the happiness of countless families. Why, then, might they not experiment on animals for the relief of human suffering, and for the advancement of knowledge which was the natural revelation of God?

THE CHOLERA IN RUSSIA.—A St. Petersburg telegram says the cholera epidemic continues to show a recrudescence in the Russian capital, and that the newspapers are urging the adoption of more stringent precautionary measures. The *Novotsi* dwells upon the necessity for arriving at an international agreement, in order that a common stand may be made against the epidemic, and that its probable return in the spring may be prevented.

The quarantine regulations for arrivals at Antwerp have been abolished.

INDIAN MEDICAL SERVICE.—We are in a position to announce that fifteen appointments in the Indian Medical Service (and not twelve, as was stated a couple of months ago) will be thrown open to competition in London, on Feb. 6 next, and following days. Jan. 23, 1893, is the latest date for the receipt of the necessary certificates. Full information can be obtained by addressing Messrs. GRINDLAY and Co., 55 Parliament Street, London, S. W.

FOREIGN LANGUAGES EXAMINATIONS.—The results of the half-yearly examination of Indian officers in the French, German, and Russian languages, held by the Civil Service Commissioners in October last, have now been made known. Surg-Capt. H. C. S. ARNIM, I.M.S., has passed in German, with 421 marks.

CHAIRMANSHIP OF THE CORPORATION.—Mr. Harry Lee, Chairman of the Municipal Corporation, has intimated to the Members that he will proceed on long furlough to England early next year. Before Mr. Lee vacates his appointment, Mr. Ritchie will have returned from his six months leave to England, and as at present arranged, he will again officiate for Mr. Lee as Chairman of the Corporation.

THE ASSAILANT OF DR. PRATT.—The prisoner, who so desperately attacked Dr. Pratt in the Gonda Jail lately, has been sentenced to seven years' imprisonment. He is a Mahomedan *faquir* of the Chashtiya caste. Dr. Pratt still carries his arm in a sling.

OPIUM.—The results of nine sales of Bengal opium and eight months' pass duty on the exported drug show an improvement of nearly 44 lakhs on the estimate.

LANOLINE-VACCINE.—Under the advice of Brigade-Surgeon Lieutenant Colonel McGann, the Sanitary Commissioner for Mysore, the Mysore Government, on the cessation of operations by the Madras Government, bought a considerable amount of the apparatus that had been used for the production of lanoline-vaccine. The Mysore Government Vaccine Institute at Bangalore was by this means opened for work on an experimental basis on Dr. W. G. King's system, on the 15th March last. The Sanitary Commissiner for Mysore, after having given the method his careful attention, has now decided to recommend the Mysore Government to maintain the Vaccine Institute permanently. Estimates have been prepared accordingly. The Travancore Government, its Superintendents having undergone training by Dr. King, also supplies its vaccinators with lanoline-vaccine. Including Bengal, there are thus three Governments which have elected this method of vaccination, and the adoption of this system is also under consideration in Baroda and Egypt.

TRENCHING NUISANCE.—The inhabitants of several suburban villages have petitioned the Chairman of the Suburban Improvement Committee of the Calcutta Corporation, against the continuance of a trenching ground at Majerat, Durgapore, which is described as a permanent nuisance and source of danger to the residents of the neighbouring villages and to the public in general who have occasion to pass along the Diamond Harbour and Garagacha Roads. The Memorialists point out that in 1890, the Corporation was fined Rs. 100 by the Police Magistrate of Alipore, for causing a public nuisance, and that the officers representing the Corporation promised that the nuisance should be removed; but though three years have since elapsed, the trenching ground still remains. Meanwhile, several Municipal Commissioners and Medical Officers, who have visited the locality, testify to the "horrible nuisance" of the trenching ground, and declare it to be a potential cause of disease.

INDIAN STUDENTS.—The following Gentlemen have been admitted Licentiates of the Royal College of Physicians of London; Dossabhoy Nowroji-Cooper, Madras Medical College and St. Bartholomew's Hospital; Desabhai Hirjibha; Kohla, Grant Medical College, Bombay, and Middlesex Hospital.

THE LADY DUFFERIN FUND.—Kunwar Shiva Nath Sinha, Barrister-at-law, of Tajpore, has given Rs. 10,642 for one of the Wards at the Lady Lyall Hospital at Agra. Whatever balance there may be, will be invested in the funded capital of the Dufferin Association. The Rampore Council of Regency has granted a donation of Rs. 50,000 to the N. W. P. and Oudh Branch.

THE CALCUTTA SNAKE LABORATORY.—While various types of fanatics in England are diligently giving each other the lie over the vexed question of vivisection, the liberality of an eminent Bengali, Baboo Govind Chandra Laha, has, the *Pioneer* says, enabled the Committee of the Calcutta Zoolgical Garden, to take the first step on one of the few untrodden paths of of scientific research. The Bengal Government started the idea of a snake laboratory, and asked the Government of India to contribute to the cost. The Home Department took refuge in the usual financial *non possumus*; and the whole thing would have fallen through if Baboo Govind Chandra Laha had not come forward with a donation of Rs. 15,000—a sum which will suffice to build a well-lighted laboratory, with efficient scientific appliances for carrying on biological research. The Calcutta Snake Laboratory will be the only institution of its kind in the civilised world, and the Committee expect that it will be largely resorted to by the scientific inquirers who visit India during the cold weather. In accordance with the practice of scientific laboratories in Europe, a charge will be made for the use of the tables and instruments at rates sufficient to cover the working expenses of the institution. Work done on behalf of Government will also be charged for according to a regular scale.

Reviews and Notices.

DISSECTIONS ILLUSTRATED.

[PART I.—The Upper Limb, with 17 colored plates.]

BY C. GORDON BRODIE, F.R.C.S.,

(Whittaker and Co., London.)

Whilst nothing but practical work in the dissecting room on the dead subject will with careful and patient dissection teach the student sound anatomy, we cannot help admitting, that this book "Dissections Illustrated" and colored, is one of the most remarkable publications of the day. Got up as it is in a very portable size and offered at a low price, it ought to be in the hands of every student and practitioner. As a help after returning from the dissecting room, these plates will be of immense value to the student, whilst to the practitioner who requires to recall work done in previous years as a student, there is nothing to take the place of a work of this kind, to meet any anatomical difficulty. A new feature in these "Dissections" is, that the relative position of the bony landmarks to the cutaneous tissues are shown. The general get-up and print of the work is excellent, and we anticipate for it a very large demand.

NEW INDIAN MEDICAL JOURNALS.

This month devolves on us the pleasing duty of announcing the birth of two new journals in the medical family circle. The first, *The Scalpel*, a journal for medical students, its editorial father is Mr. C. W. Kirkpatrick, a senior military medical student of the Medical College, Calcutta. From the few numbers that have been received by us, it seems to be well got up and does great credit to the Editor. We wish it every success.

The second journal on our table is *Bhishag-Vilasa*, published in Maharatti monthly, at Sholapur, and is edited by Mr. R. Ranade.

Government Notifications.

Asst-Surg Lyam Nirad Dass Gupta, in temporary medical charge of the Kissengunge sub-division and dispensary, is appointed to do supernumerary duty at the Medical College Hospital, Calcutta, until further orders.

Asst-Surg Benode Behary Dass, in tempy civil medl charge Balasore, is appointed to do supy duty at the Medl College Hospital, Calcutta; until further orders.

Asst-Surg Asutos Law, in tempy medl charge of the civil station of Malda, is appointed to do supy duty at the Medl College Hospital, Calcutta, until further orders.

During the absence of Dr. T. Ffrench Mullen, Medical Officer of the Maywar Bhill Corps, Dr. J. Chaytor-White is appointed to act in charge of the corps.

In consequence of the transfer of Dr. T. Rudd, M. D., on the Home Establishment, Dr. R. P. Ferguson is brought to the Administrative Medical Staff of the Army, as also Dr. C. H. Y. Godwin in place of Dr. F. W. Wade.

SURGEON-CAPTAIN J. Chaytor-White, is appointed to officiate as Medical Officer of the Maywar Bhill Corps.

SURGEON-Lieut. Colonel Charles Cameron, Indian Medical Service, Bengal, is permitted to retire from the service.

Assist Apothecary E. S. Baillie, of the Medical College Hospital, Calcutta, held charge of the duties of the Apothecary of that Institution, in addition to his own duties, from the forenoon of the 21st Sept, to the forenoon of the 13th October 1892.

Surgeon-Captain E. A. Hall is appointed, to act as Civil Surgeon, Saran.

Surgeon-Captain P. W. O'Gorman is apptd, to act as Civil Surgeon of Jessore.

Asst Apothecary M. E. Mungavin, is apptd, to act as Dy. Supdt. of the Dalanda Lunatic Asylum,

Surgeon-Major G. Money-Shewan is apptd, to act as Civil Surgeon of Nadia.

Surgeon Lieut-Col E. Bovill is apptd, to officiate as Civil Surgeon of Shahabad.

Govt Notification No. 2893 Med., dated 8th Nov 1892, appointing Asst Apothy G. T. Millchem to be Medl Officer of the E. B. State Railway at Sara Ghat, is cancelled.

The Notification No. 2747 Med., dated the 20th Oct. 1892, appointing Surg-Maj G. Price, Civ. Surg. of Burdwan. to be Civil Surg. of Bhagalpore, is cancelled.

The Notification No. 2749 Med., dated the 20th Oct. 1892 appointing Surg. Lt-Col. C. J. W. Meadows, Civil Surg. of Moorshedabad, to be Civ. Surg. of Burdwan, is cancelled.

Surg-Capt. J. G. Jordan, Offig. Civil Surg. of Jessore, is appointed to act as Civ Surg of Noakhali, during the absence, on deputation, of Surg.-Lt-Col Kali Pada Gupta, or until further orders.

CIVIL MEDICAL DEPARTMENT, BENGAL.—Asst-Surg Hari Charan Sen is appointed to have tempy medl charge of the Parbutipore Railway hospital, during the absence, on leave, of Asst-Surg. Prisitosh Haldar, or until further orders.

Asst-Surg. Saroda Prosad Dass, offg at the Poori Dispensary, is appointed to the Medl College Hospital, Calcutta, until further orders.

Asst-Surg. Nobin Chunder Dutt is appointed to have tempy. medl charge of the sub-divn and dispensary at Kissengunge in the Purnea dist.

Surg.-Major G. Money-Shewan, Offg. Civil Surg. of Shahabad, is appointed to act as Civil Surg. of Nuddea, during the absence on furlo' of Surg.-Major J. Clarke, or until further orders.

Domestic Occurrences.

BIRTHS.

WEATHERLY.—At Hillside, Kurseong, on December 14, the wife of A. J. Weatherly, Civil Medical Officer, Kurseong, of a daughter.

MARRIAGES.

PHILLPS—WYNDOWE.—At the British Consulate, and afterwards at the Church of the Holy Trinity, Geneva, on November 8, 1892, Capt Phillips, 28th Punjab Infantry, to Annie Francis Ersex Wyndowe, second daughter of S J Wyndowe, M D, Dep-Surg-Gen, Madras M S (Retd).

RADDICK—Huntley, At St. John's Church, Vellore, on the 21st December 1892, Henrietta, daughter of Mrs. and Mr. J. F. Huntley, to John Charles Raddick, Esq., Bengal S.M.D.

RUSSELL—PLOWDEN.—On the 11th December, at Jubbulpore, Central Provinces. Surgeon-Captain M. W. H. Russell, A. M.S., to May, eldest daughter of Colonel C. H. Plowden, M.S.C., Deputy Commissioner, Jubbulpore.

THOMSON—BROWNE.—On the 23rd November, at Christ's Church, Simla, Arthur Sackville, eldest son of Surgeon-Major-General W. A. Thomson (Retired); to Alice Margaret, eldest daughter of Major-General Sir James Browne.

DEATHS.

ADAM—On the 22nd November, at 33 Bloomfield Road Paddington, Isabella Shaw Adam, the wife of Hunter Adam, Dep-Surg-Genl, Madras Army, (Retd).

Acknowledgments.

ANSWERS TO CORRESPONDENTS.

Dr. Rutherford Morison.—Your interesting paper on The Treatment of Wounds, arrived too late for this issue.

Dr. Sandel.—Your two papers, too late for this issue.

Dr. Chew.—Next month.

Dr. T. M. Shah, Junagadh.—Your paper on Pelvic Hæmatocele, will appear in our next issue.

Dr. R. P. Banerjee.—Your paper on The Indigenous Drugs of India, arrived too late for this issue.

Wilbraham.—No space in this number.

Assistant Apothecary, Hyderabad.—You will find all the information you require, in the paper we have sent you.

Dr. A. P. Dass.—Your paper will appear next month.

Dr. Lennox Moore.—The paper you promised us has not come to hand.

Sanitas.—The Health Officer will give you all the information you require.

Subordinate.—You should send your representation of the matter through your departmental superior to the head of your Department.

Student.—You must be registered first.

Letters and Communications have also been received from the following :—

Dr. Fleming, Hazaribagh; Dr. Sandel, Calcutta; Dr. Thomas, Nagina; Dr. Noronha, Kolar, Mysore; Dr. T. M. Shah, Junagadh; Dr. Leonard A. Bidwell, London; Dr. Lennox Moore, London; Hospital Assistant I. V. J. Pillai, Ariskere; Dr. R. P. Banerjee, Pachbadra; Dr. N. C. Dutt, Noakhali; Dr. Rutherford Morison, Newcastle-on-Tyne; Hospital Assistant S. Hosain, Allahabad; Editor, *Medical Review*; Dr. H. Dass, Sibi; Dr. Wright, London; Hospital As-

sistant M. H. Barve, Phaltan; Dr. N. C. Mittra, Ranchi; Dr. R. N. Ghosal, Calcutta; Dr. A. P. Dass, Calcutta; Dr R. S. Chew, Calcutta; Dr. Green, London; Hospital Assistant, R. Pillai, Calicut; Dr. Gunga Singh, Benares; Hospital Assistant Rash Behari Das, Darjeeling; Hospital Assistant M. B. Vinze, Rewah; Assistant Apothecary T. Bell, Bareilli; Hospital Assistant Shumshere Khan, Sohaghpur; Dr. Gunga Ram, Bhawalpur; Assistant Apothecary H. W. Foscholo, Calcutta; Dr. J. C. Day, Assam; Lawrence and Mayo, Calcutta; D. Waldie and Co., Calcutta; The Managing Proprietor, Bengal Chemical Co., Calcutta; Marks and Co. Ld., Bombay; Asst Apothy Almeida, Hyderabad; Dr. J. V. Pillai, Madras; Dr. Hynes, Moulmein.

Periodicals.—The Lancet—The British Medical Journal—The Edinburgh Medical Journal—Indian Medical Gazette—Journal de Mèdicine de Paris—Modern Medicine—Australian Medical Journal—The Sanitary Journal—The Medical and Surgical Journal—The Medical Times and Register—The Lancet-Clinic—The Medical Bulletin—The Medical and Surgical Reporter—The New York Medical Journal—The Family Doctor—Doctor's Magazine—Health Messenger—Health—The Medical Record—British and Colonial Druggist—Chemist and Druggist—The Medical Review—New Orleans Medical and Surgical Journal—The Medical Monthly—The Scalpel—The Humanitarian—The Popular Science Monthly—The Sanitary Record—Merck's Medical Bulletin—The Southern Medical Record.—The Sanitarian—Doctor's Weekly—The Post Graduate—Bishak-Vilasa.

BOOKS RECEIVED.

Dissections Illustrated. By C. Gordon Brodie F.R.C.S., (Part I, The Upper Limb, with colored plates). Whittaker and Co., London.

Hoblyn's Dictionary of Medical Terms (Twelfth Edition). Whittaker and Co., London.

Catechism Series, Anatomy, Public Health, and Materia Medica,—E and S. Livingstone, Edinburgh.

Sea Sickness, Digestion and Diet, and Indigestion. (Three Volumes). By Thos. Dutton, M.D.,—Henry Kimpton, London.

The "Chemists' and Druggists'" Diary, for 1893.

Newspapers.—The Home News—The Indian Daily News—The Statesman—The Eastern Guardian—The Evening Star—Newman's Bradshaw—Hope—The East—Islam—Bombay Native Opinion—Bangalore Spectator—Nagpur and Berar Times—Progress—Punjab Patriot—Arrakan News—Rangoon Gazette Weekly Budget—The Express—Madras Advertiser—Behar Herald and Indian Chronicle—Bombay Guardian—Banner of Asia—Tribune—Beluchistan Gazette—Western Wit and Wisdom—Indian Empire—Gwalior Gazette—Eurasian Recorder—People's Friend—India Watchman—Western Star—Messenger of Light—Indian Nation—Evening Echo—Indian Union—Poona Observer—National Guardian—Indian Engineering—Courier—The Argus—The Bengal Times—Signs of the Times—The Indian Textile Journal.

NOTICE.

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Editor and Proprietor,

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Original Articles.

WOUND TREATMENT.

By Rutherford Morison, M.B., F.R.C.S., (Eng. and Ed).
Senior Assistant-Surgeon to the Royal Infirmary
Newcastle-on-Tyne.
England.

The art of surgery has now out-stepped the limits of a mere handicraft. Accuracy in diagnosis, and manual dexterity are not the only requirements of the surgeon. Operations should be more than brilliant, they should be successful.

A clumsy operator, even if his diagnosis be incomplete, may yet be more useful to the community than the most *adroit* surgeon. Essential to his success however, is thoughtful, purposive action, and unremitting attention to detail.

The importance of a right wound treatment cannot be over-estimated. The scope of surgery has been more than doubled in the last 20 years by the work of Sir Joseph Lister, who from investigations into the causes of suppuration and its consequences, has taught us how they may be avoided. The most uniformly satisfactory results in the healing of wounds made by the surgeon are obtained by the sub-cutaneous method of operation.

A close imitation of the conditions favourable in sub-cutaneous healing, are likely to lead to a satisfactory form of wound treatment.

In such a wound—

1. *Micro-organisms, Chemical Irritants and Air* are excluded.

2. *Pressure is exercised on the wounded structures* by the undivided elastic skin.

3. *There is a minimum of interference with the wounded structures*, no sutures, no ligatures.

4. *Heat is retained* by the unbroken superficial parts.

Of the four conditions favourable to the healing of subcutaneous wounds, I have put in order of merit—

1. *Exclusion of micro-organisms, Chemical irritants and Air.*

That inflammation, suppuration, erysipelas and indeed all wound complications arise from the presence of micro-organisms and their products is abundantly proved, and that, the organisms are conveyed to the wound by contact may also be accepted as practically true. The teachings of bacteriology and surgery combine to show, that the virulence of the air has been over-estimated, and that the germs which it commonly contains may be safely disregarded as a source of wound infection.

Mischief arises by the introduction into the wound of deep particles from the hands of the surgeon or assistants, the skin of the patients, the instruments, sponges, clothing, dressing, etc. Perfect cleanliness would ensure perfect wound healing with little discomfort and no constitutional disturbance, but a perfect cleanliness applicable to wound treatment is unattainable by our present methods. The nearest approach to it necessitates the use of some powerful germicide, and in using this, we are choosing the lesser of two evils, for we must bear in mind, that one of the advantages of our ideal sub-cutaneous wound is the absence of chemical irritants, amongst which all antiseptics take rank in more or less vicious degree.

2. *Pressure is exercised on the wounded structures* by the undivided elastic skin.

The importance of properly applied firm pressure, as a principle in surgery, is not yet sufficiently recognized. As a curative measure it has been extensively and successfully adopted, but as a preventive of inflammation and its results, it has passed unnoticed. There is no single item of wound treatment deserving of more attention. Firm and careful bandaging over abundance of cotton wool, produces an elastic pressure, which by bringing the wound surfaces into apposition hastens healing, by diminishing the increased blood flow prevents exudation, and by securing rest minimises pain.

3. *There is a minimum of interference with the wounded stuctures*, no dressing, no drainage tubes, no sutures, no ligatures.

It must be apparent that the absence of all these disturbing influences is a considerable factor in securing that perfect rest necessary to perfect repair; and when the importance of damaging the tissues in the smallest degree possible is borne in mind, the disadvantage of necessary bruising during operation, of sluicing with antiseptics, of including large portions of tissue in ligatures, and of leaving foreign bodies such as drainage tubes in contact with them, will not be forgotten.

It is well to remember, that a former race of surgeons got fair results owing almost entirely to a respect for the vitality of the tissues, and we now recognize, that invading micro-organisms have not much chance against healthy tissues.

4. *Heat is retained*, by the undivided superficial parts.

In no vital process is the value of heat more evident than in the healing of wounds. Where do wounds heal as they do in the peritoneal cavity? Does heat not play the important part in wounds of the mouth, which heal rapidly in spite of their septic surroundings, and the constant disturbance to which they are exposed? Are not heat and elastic pressure the secrets of success in the Martin bandage method of treating leg ulcers?

So far my endeavour has been to suggest only the principles, which should guide surgeons in wound treatment.

The application of these principles demands careful consideration. I will therefore indicate the procedure that I recommend, describing in detail the *technique* that I adopt.

General preliminary procedure :—Except in cases of emergency, the general condition of the patient should receive careful attention, as bearing more strongly than some might suppose in wound treatment. Especially the condition of the kidneys, digestive organs, and nervous system require investigation, for no operation, or none but the most urgent, should be undertaken without a knowledge of their states. Anæmia, either from loss of blood or other cause, is to be regarded with suspicion as predisposing to septicæmia.

Special preparations :—The surroundings of the patient are of considerable importance, for the statement, that organisms in the air may be ignored, applies only to comparatively pure air. If an operation of emergency is to be performed, nothing in the *room* should be disturbed more than is essential, or dust, probably mischievous in character, may be raised. A damp sheet spread over a dirty carpet under and around the operating table is a useful means of minimising this danger. If the necessity for immediate operation be less pressing, a different procedure should be adopted. The room in which the operation is to be performed, should be thoroughly ventilated, all useless furniture, curtains, pictures, etc., should be removed, and it should be thoroughly cleaned twenty-four hours before the time appointed to operate.

The *dressings* that I use for a fresh wound are corrosive gauze dipped in 1—2000 corrosive lotion, and large pads of Hartmann's wood wool wadding. The pads should be duly adjusted above the gauze, which is to be placed next the wound.

Nail Brushes are an important part of the surgeon's armamentarium, and should be kept in lidded jars, soaking in 1—1000 corrosive lotion. The best are made of ordinary wood with strong bristles, and are sold at 2/6 the dozen. They may be carried about wrapped up in corrosive gauze more conveniently than in bottles. When in doubtful condition, boiling for 10 minutes in soda and water makes them fit for use.

Sponges are frequent sources of mischief, and require great care and attention. When new they are well shaken and beaten, in a mortar if necessary, to remove as much of the calcareous matter, sand, and *debris* as possible. Next, they are soaked in acid-water (commercial hydrochloric acid and water strong enough to taste distinctly acid) for about four hours, or at any rate until all effervescence has ceased. Then they are thoroughly kneaded in a solution of carbonate of soda and water (½ lb. to 3 quarts) over and over again. After this they are thoroughly washed in clean water, and finally put in carbolic lotion 1—20, where they are kept. When required for use outside, they may be separately wrapped up in corrosive gauze and can then be conveniently carried in a waterproof sponge bag.

When soiled they are frequently washed in *warm* water first, then steeped in carbonate of soda solution for twelve hours, again washed in warm water till quite clean, and finally put in a jar with 1—20 carbolic lotion. Boiling unfortunately ruins sponges.

Ligatures and Sutures:—For some years I have used silk for both purposes, for catgut is untrustworthy as ordinarily bought, and difficult to prepare. It is also a convenience to have one substance which will serve for either use. The silk is first steeped one to two hours, according to its thickness, in 1—500 corrosive lotion, then for four days in 1—20 carbolic lotion, when it is wound on sterilised reels and either transferred to absolute alcohol, where it is kept, or it may be rolled up in corrosive gauze and there allowed to dry. Before the silk is used it is placed in the instrument tray and covered with the same lotion as the instruments. Prolonged or frequent immersion in chemical antiseptics or even in boiling water makes the silk friable and untrustworthy, so that, it is necessary to test it from time to time, and for special purposes such as ligaturing hæmorrhoids or ovarian pedicles, it should always be freshly prepared.

Drainage Tubes are kept in clean glass wide-necked stoppered bottles, filled with 1—20 carbolic lotion. It is advisable to keep beside them a few safety pins for transfixing the end projecting from the wound, as this is the most convenient method of preventing the tube from slipping in, and possibly being lost.

Instruments are thoroughly washed with soft soap, hot water and a nail brush, they are then immersed in 1—20 carbolic lotion for an hour before operation. When required the lotion in which they are lying is diluted with an equal quantity of boiling water. When dirtied they are washed and brushed whilst still moist, and then dried thoroughly before being put away.

The part to be operated on except in cases of emergency, is prepared as follows :—The skin surrounding and over the seat of operation is thoroughly scrubbed with soft soap and hot water twelve hours before the operation. If the part is hairy it is shaved at this stage. Then the area to be cleansed is rubbed with turpentine on clean lint or flannel, after this comes another rubbing with spirits or soap and hot water, to remove the turpentine. Asepsis is further secured by covering the whole part with a towel, which after soaking in 1—1000 lotion, has been wrung nearly dry. This is maintained in position until the operation, by a bandage.

The surgeon's hands are treated in the same fashion with scrupulous care. First they are washed with soft soap and hot water, and the nails carefully cleaned, preferably with a bone picker, then scrubbed with turpentine, and again with soap and hot water till all traces of turpentine are removed. Finally they are soaked in 1—2000 corrosive lotion for at least two minutes.

It should be distinctly understood, that no one, unless cleansed as the operator, must touch sponges, instruments, or the neighbourhood of the wound. If the hands of the operator or those of other assistants have necessarily been brought in contact with anything not specially purified, they should at once be thoroughly washed in 1—1000 corrosive lotion before being used again.

A considerable area all round the wound should be covered with towels wrung in 1—40 carbolic lotion. The wound is thus isolated in the centre of an antiseptic circle and is to be so protected from contamination by blankets, clothing, &c., which are all covered by the antiseptic wrap. Instruments too, can be laid on the towels without fear of their being harmed.

Immediately before commencing the operation, the patient's skin is washed first with 1—1000 corrosive lotion, also the surgeon's, assistant's, including nurses hands, and this is washed off with 1—5000 corrosive lotion. The sponges are also wrung out of hot 1—5000 corrosive lotion.

Take as an example, a case of excision of the breast and axillary glands. With everything prepared as stated, the operation is commenced. Sponges wrung as dry as possible are used to find the bleeding points. These are ligatured with silk, every possible bleeding vessel receiving attention. The operation is completed by packing the wound with thin sponges, and introducing but not tying the silk sutures. When a sufficient number of sutures are fixed, and by clamping the ends with hæmostatic forceps, they may be conveniently prevented from slipping out, the sponges are withdrawn and the wound, left thus quite dry, closed by tying the sutures. Additional stitches are generally required to secure perfect apposition. The closed wound being covered with a sponge, the surrounding surface and arm are cleaned with warm lotion, and the wound is now fairly covered with a pad of corrosive gauze five to eight layers thick wrung out of corrosive lotion. A pad of wool is next placed between the arm, and the lateral chest wall, and kept in position by the upper arm placed against it. The patient is then drawn over the head of the table, her back cleansed and the dressing completed by a large pad of wool over chest and back firmly bandaged in position with a long broad and strong flannel bandage, only half of the forearm and the hand being left free.

The course of a case so treated will be as follows :—

On the second evening after operation the temperature will reach its highest record 99°—101°F.; on the fourth day the patient will sit up unaided in bed; from the 5th to her 7th day she will get up, walk to a chair and sit for a time; on the eighth day the dressings will be removed, sutures taken out and the wound will be practically healed; from the tenth to the fourteenth day, in fair weather, she will get out.

The fixed position of the arm and some aching in the back are the chief complaints when enquiries are made as to the presence of pain.

Such has been the exact course followed in twenty-four out of the twenty-five last cases on which I have operated. The case that failed was one in which a large ulcerating skin has made it difficult to get the skin properly purified. A similar result may be expected in other cases. The following are recent examples.

A man aged 35, with advanced tubercular disease of the knee joint and spinal caries. Amputation in the middle of the thigh. Slept well the night after the operation, temperature never over 99°F. out of bed on fourth day. Healed on eighth day, when dressings were changed for first time and sutures were taken out.

A woman with tumour of right lobe of thyroid gland, which proved to be a rapidly growing sarcoma. Right lobe of thyroid removed. No disturbance from operation. Wound healed when looked at for first time on ninth day.

A man, middle-aged, skull trephined in two places for purposes of exploration. Disc of bone removed by trephine was chipped into small fragments, with which both trephine openings were filled. Both wounds soundly healed on ninth day. A month later, complete consolidation with perfect regeneration of skull.

A child, with immense mass of tubercular glands in neck involving an extensive dissection for their removal. Wound healed throughout on eighth day, when dressings were removed for the first time.

A woman, with lipoma of abdominal wall, the removal of which left an incision one foot long. Wound entirely healed, when dressings were taken off for first time on eighth day.

A man, on whom Halstard's operation for the radical cure of hernia, has been performed. Wound entirely healed on tenth day when dressings were taken off for the first time.

In all abdominal sections unless a drainage tube has been left in, complete healing may be expected by the tenth day, if good apposition of the wound surfaces is secured.

Further detail would be tiresome, suffice it to say, that, given a patient not yet putrid, the surgeon must look for explanations of failure to himself or his methods, if he cannot secure such results.

This method however, requires great care and attention to detail, and some experience. For a surgeon not practised in such matters, or when much damage has been inflicted on the tissues, or in case of doubt as to the thorough carrying out of all the precautions mentioned, the wound is flushed and drained. The flushing is performed with a profusion of hot (105°F) corrosive lotion 1—10,000 poured on the whole wounded surface immediately before closing the wound. A full sized drainage tube is introduced and left for forty-eight hours, when it is removed and the wound redressed with the same precautions, as were taken at the operation.

In every case where dressings are changed as strict precautions are taken as in the first instance to avoid contamination of the wound. The dresser must be as careful in his attentions, and must take the same care as was done before. The dressings may be moistened with warm 1—5000 corrosive lotion to aid their separation and on the wound being exposed, a warm moist layer of corrosive gauze should be laid over it. This should be kept on, whilst the skin which has been under the dressing is being bathed with 1—5000 corrosive lotion. The bathing relieves itching and other discomfort, but unless the wound is covered up, detached flakes of epidermis or other dirt insufficiently acted on by the antiseptic may be swept on to the wound and cause mischief.

If the case is one of urgency and a fresh wound already exists, the wound itself is carefully washed and freed from all

foreign bodies with a clean sponge and corrosive lotion 1—1000. Any pockets in the wound receive most careful attention and if there is any doubt about the possibility of thorough cleansing, as in most compound fractures, the wound is enlarged freely to allow of it. A sponge wrung out of a solution consisting of equal parts of 1 to 500 corrosive lotion and 1 to 20 carbolic lotion is fixed on the wound as soon as the cleansing process is completed. If the wound is more than 2 or 3 hours old or has got dirt of any sort ground into it, a thorough scrubbing with carbolic acid in spirit 1 to 5, precedes the washing with corrosive lotion. With the sponge, as before pointed out, fixed over the wound, the skin and surroundings are thoroughly cleansed as previously described. The only difference made, may be, that more vigorous scrubbing of the skin is employed in the latter than the former case, and even in parts devoid of hair, shaving with 1 to 20 carbolic lotion and soap aids in the removal of dirt so effectually, that I frequently do it.

With all preparations concluded the sponge is taken off, the wound is freely *douched* with 1 to 5000 corrosive lotion, sponged dry, drained, sutured and dressed.

In making a wound deliberately if contact sepsis is avoided in some such way as has been described, irrigation is unnecessary and injurious for all antiseptics cause more or less irritation and damage the tissues. *No more of the antiseptic than is unavoidably present on the surgeon's hands, instruments or sponges, should therefore come in contact with the wound.* A good rule is antiseptic precautions before operation, aseptic precautions as far as possible during operation. In the case of a wound already made, probably with dirty instruments and coming into contact afterwards, with dirty surroundings, a choice of two evils has to be made. Either the risk of wound infection has to be run, or the disagreeables attending the energetic use of powerful antiseptics have to be encountered. There is abundant evidence to prove that the latter must be selected.

The dressings require removal.—

1. If there is pain beyond a moderate degree.
2. If the temperature rises.
3. If discharge comes through the dressings.

If drainage tubes are used, an early dressing for their extraction is necessary. About the third day is a good time in fresh wounds. Un-absorbable sutures require another dressing about the tenth day for their removal, when most wounds should be healed.

For the proper treatment of wounds, it is unnecessary to have complicated apparatus and unworkable methods. The most excellent results are obtainable, with simple means, if only the principles are kept in view. It is no excuse when a wound goes wrong to blame the absence of materials and apparatus, and I will describe a method by which, in an emergency, a serious wound may be treated with expectation of a favourable result. The requirements are :—

(a). Soft soap.
(b). A nail brush.
(c). Washing Soda.
(d). Turpentine.
(e). A large pan.
(f). A fire.
(g). Towels.
(h). Water.

The cleansing of patient, operator and assistants, is conducted in the manner described previously. The nail-brush and towels are boiled for 10 minutes in the pan, filled with a solution of soda in water (one heaped tablespoonful to each quart). Silk, if required for ligatures or sutures, is also put in the pan and boiled for the same length of time. If only dirty instruments are available and all instruments unless specially cleaned must be so regarded, they must, after scrubbing with soap and hot water, be boiled for ten minutes in the soda solution. The whole apparatus so treated is now sterile and ready for use. The wound is washed with soda solution, allowed to cool for the purpose, the instruments are covered by the same, and the operation area is surrounded by sterile towels. Well wrung they take the place of sponges. Finally several of the purified towels put on, wet serve as a dressing which soon dries from the heat of the part.

Similar preparations and precautions are as necessary in the case of wounds already putrid as in fresh ones. It is bad surgery to become careless because a wound has gone wrong. Disaster may follow the introduction of mischief into a wound already heavily handicapped and thus more prone to become further infected. Putrid granulations and tissues of limited extent may be dissected or scraped away and the wound so reduced to the condition of a fresh one capable of being so treated. Where this cannot be done, free drainage must be the first consideration. If necessary, incisions should be made in suitable dependent positions to secure this, and full sized drainage tubes introduced. Free irrigation with 1—10,000 corrosive lotion, should then be practiced and after drying, iodoform may be, lightly, or dry boracic powder, liberally, dusted into or over the wound. The whole is now covered with Gamgee tissue on the outside of which is placed a layer of guttapercha skin to prevent evaporation. This dressing should be frequently changed and at each removal of it, free irrigation of the wound and cavities must be carried out as at first.

For wounds in or near the natural orifices, and so unsuitable for ordinary treatment, *e.g.*, anus, mouth, and genital tracts, iodoform is invaluable. Though it is not a perfect germicide and its use in fresh wounds is consequently to be condemned, it has been proved clinically to be better in such cases than ordinary antiseptic preparations. The same statement may be made concerning boracic acid, which appears only to be less energetic. They are both conveniently kept in a pepper box and sprinkled over the affected part. In using iodoform it should be borne in mind, that a too lavish use of it has been followed by disagreeable symptoms, the earliest of which, is a strong taste and smell of the drug experienced by the patient.

Every school has particular lotions, dressings and methods, frequently changing, but tending to get simpler and more

effectual with the lapse of time. Gamgee tissue, corrosive wool, sal alembroth wool and gauze, salicylic wool and silk, boracic lint and wool, and a host of others might be mentioned. All are good and useful, perhaps equally so, if the principles governing wound treatment are kept in mind, and intelligently carried out.

The special dressings I have described, are those I have found particularly useful for several years, and in the Royal Infirmary of Newcastle-on-Tyne they have been used for a long time, with results which would be difficult to beat.

INDIGENOUS DRUGS OF INDIA.

CHRYSANTHEMUM ROXBURGHII, DESV. SPHŒRANTHUS INDICUS, LINN. SPHŒRANTHUS GLOBOSUS, DE. C. SPHŒRANTHUS MOLLIS, ROXB. Called—Mûndi, Murûndi, Tejballi.

BY R. P. BANERJEE, B.A., G B.M.S.L.

PACHBADRA, RAJPUTANA.

THIS compositacious plant is so widely known all over India, and especially to Indian and Native practitioners, *hakims* and *vaids*, that it hardly needs my giving any botanical notes here. It is easily procurable and in some parts of India, it grows wild near water as a weed, during the early winter months.

All parts of the plant contain a pungent acrid principle, and a peculiar irritating oily substance. Any part when chewed, produces a tingling sensation in the tongue, leaves behind a hot pungent taste, and afterwards produces a low sense of numbness. The juice is very acrid and causes severe irritation when applied to the conjunctivæ.

It is universally known to Native medical practitioners, and is much lauded as a diaphoretic, diuretic, expectorant, and nervine tonic.

I have used it in the following cases with good results:—

Case I.—Churamani, *æt* 68 years, Hindu, Peon, North India Salt Customs, admitted on 29th September, 1892, for malarious fever (*tertian ague*), with the following symptoms.

Patient very weak and emaciated, skin hot, temperature 102°6, pulse 130, tongue dry, cracked in places, bowels costive, skin jaundiced and dry, rather waxy to the touch. Complained of pain in left side of the chest about the fourth, fifth and sixth costal spaces, no auscultatory sounds, no percussion changes noticed, with every effort at coughing brought up a small quantity of numular sputum (phlegm), which when brought up, relieved the cough, temperature rising to 103°8 in the evening, the patient became delusive at night and ran out of his bed.

Treatment.—The bowels cleared by castor oil enemata, and quinine given in 5 grain doses thrice a day to combat the fever, hot poultices applied to the painful parts, and a warm decoction of *moondee* (sphœranthus mollis), given in two ounce doses three or four times. The patient rallied under this treatment, fever left him after a fortnight, bowels were now regular, and very seldom got out of order. The pain in chest and cough was obstinate, without any change. The patient was kept on good diet, and the warm decoction of *moondee* was given him in four ounce doses six times a day. This seemed to have good effects, the cough was abating gradually, pain in the chest disappeared, and in body and strength the man improved, subsequently he was discharged cured, after a month.

Case II.—C. H. S.—Eurasian boy, *æt* 16 years, Officiating Clerk Salt Customs Office, Pachbadra. Applied at the dispensary for treatment of cough and fever, and apparently with symptoms of case No. 1, on 13th November, 1892. In this case bowels were cleared by a mild aperient and the decoction of *moondee* used, and cure was effected in a fortnight.

Case III.—Mr. G. D. Barlow, *æt* 35 years, Inspector, North India Salt Revenue Department, Pachbadra, applied for treatment for cough, pain in the chest, and fever. Similar treatment as in case No. 2 was resorted to, and cure was effected in ten days. The case was taken in on 14th November, 1892, and discharged on 24th November, 1892, with good results.

Case IV.—Mr. J. Barlow, *æt* 18 years, brother to above Officer, treated for the same disease with decoction of *moondee*, with good results.

Case V.—Muzaffar Hosain, *æt* 43 years, Musalman, Inspector, North India Salt Revenue, Pachbadra, admitted for treatment on the 3rd December, 1892, with the same symptoms as case No. 1, and was solely treated with *moondee* decoction, freshly made and hot, and the patient made a good recovery after six days use. Was discharged to duty on the 9th December, 1892.

Remarks—I found *moondee* very useful, and a good diaphoretic and nervine tonic, other properties assigned to it were not well marked. All patients who were weak and exhausted braced up strength under its use, which proves the tonic effects of the drug.

I would ask learned hands to take up this drug, and give it crucial trials to establish its efficacy. It is very commonly known in upper and western India, it has found favour with people as a household remedy in coughs of children, and I hope this medicine if not equal to, is not less than the official pellitory root in its efficacy. I have been successful with its use, and I will be again able to bring to the notice of the Profession more cases; in which it has been given a good trial as to its efficacy or non-efficacy after being tested more fully. Indeed, this useful drug has been given a trial in some cases by other practitioners already, but was too limited and defective to arrive at definite results. More is desirable, as its efficacy in different forms of coughs and chest affections has yet to be established.

Case VI.—Mir Hassan, *æt* 40 years, male, Musalman, Peon, North India Salt Revenue Customs, admitted on the 9th November, 1892, for treatment of general dropsy, and with the following history and symptoms.

History.—The man is sparely built, married, has got two children, not addicted to wine, opium, bhang or tobacco, and possesses limited effects. His constitution is much worn out by age, and he appears much older than what he is actually, and has been through the changes of life and service which were often trying, but he never before suffered from any severe or protracted illness. Three months ago he was attacked by seasonal (*malarious quartan*) fever, and in the course of this

illness exposed himself to night air and chills, unavoidably because of his duty. He was confined to bed, with severe pain and stiffness of the larger joints, and high fever attended with swelling of the feet rapidly extending upwards. The fever continued for twelve days. He had fever each day, a little stronger on every alternate day, and on the fourth day. Gradually both the lower limbs were swollen and puffy to the touch, abdomen full, pyriform, and distended with water, eyelids and face œdematous, bowels costive and very irregular, urine scanty, often the whole of the day passed without any attempt at micturition.

Present Symptoms.—9th November, 1892, 10 a.m. Has got fever, temperature 100°2, pulse 95, respiration hurried, 20 per minute, especially the superior costal often interrupted with deep sighs on inspiration, skin yellow, harsh, and waxy to touch, tongue yellow, furred; gums sorded. Conjunctivæ pale and eyes sunken. Spleen enlarged, extending to left iliac and umbilical region. Face waxy, puffy, swollen, and eyelids nearly closed. Urine not passed more than once in twenty-four hours, and in very small quantity. Bowels constipated, stools dry and scanty.

Percussion.—Dull all over the abdominal regions, changing with position, the lower always dull, chest clear, except the inter-scapular and infra-scapular, which are dull. Liver not extended or enlarged.

Auscultation.—Normal and a little exaggerated in the left sub-clavicular region. The heart sounds were normal, but the rythm affected the first sound and had an adventitious addition. The presystolic sound sharp and clicking, and merging into the systolic one.

Diagnosis.—The case was diagnosed as dropsy caused by enlarged spleen, a result of untreated and neglected malarious fever, and the spleen was pressing upon the veins. Urine though scanty, shewed no albumen, biliary acids or bile pigments, no reaction with Petenkoffer's, Potassio Mercuric Iodide or Peptone tests were obtained. Murexide test yielded a decided coloration and showed uric acid in excess. Specific gravity 1020—1035, but Fehling's gave no results.

Treatment.—Castor oil enema given twice a day, but this produced only three scanty stools. Quinine Hydrobromate, gr. i was hypodermically injected, at 12 p.m. every day till 11th November, 1892, when the fever left him, but the dropsy was the same, and the patient was unable to stir out of the bed. Warm decoction made of *moondee* (sphœranthus mollis *Linn*), one ounce in twenty ounces of water given in four ounce doses three or four times a day, and persevered in. On the 12th, profuse sweating was produced, and the swelling of the face less, but other parts still in the same state. On the 13th puffiness of face still less, skin now moist, urine increasing, sp. gr. 1020. Had three loose fœtid motions in the evening. On the 14th, not much change from above noticed, except that the patient passed two large and loose but bilious stools at about 5 p.m., and felt much relieved and was breathing easier, but still supra-costal.

On the 15th, better, and the swelling of the feet going down, appetite returned.

On the 18th, the abdomen less distended, and on coughing the linæ transversæ noticed, breathing easier now, spleen retracting back from the umbillical region, no fever.

On the 22nd, better, and the swelling of the leg has gone down, pulse gaining strength, urine profuse and voided two or three times a day, sp. gr. 1010, but still colored.

On the 26th, no abdominal distension now present, the swelling of the feet almost disappeared, waxy hue of the skin now darkening to wheat brown. Appetite returned. Had three motions daily, spleen much diminished.

7th Dec. 1892, better, no fever, breathing easier, bowels regular, and the patient was now pronounced to be convalescent.

10th Dec. 1892, better, gaining flesh and is much improved. Discharged to duty *cured*, on the afternoon of the 16th December, 1892.

Remarks.—I find *moondee* acts very beneficially in dropsy where great weakness is accompanied, not to say a word to the Sanskrit writers on medicine who have lauded it so much, but I can testify it does actually possess good anti-fever, diuretic and diaphoretic virtues, without any weakening effects of other remedies of the same class. I dont think it will be superfluous to give here a short botanical description of the plant in question, as to its easy recognition and means of procure. It is an annual plant, common near moist places and fields, found all over India, flowers in early winter, in some places grows as a weed. It is known to all class of men in India, and much used in native practice as a tonic.

Stems.—Generally winged, suffruticose and short.

Leaves.—Sessile, decurrent, serrate, villous, long, obovate, sometimes glutinous.

Peduncles (flower stocks).—Long rarely, but usually short and winged.

Flowers.—Solitary, terminal, colored, floret, tubular, a few hermaphrodite, receptacle scale and no pappus, seeds solitary exalbuminous.

The species *Sphœranthus Mollis, Roxb* is fragrant, but *Sphœranthus Indicus, Linn* is inodorous. The former is stronger when fresh.

Cash VII.—Amar Singh, *æt* 35 years, Rajput, Peon, North India Salt Revenue, Pachbadra, admitted on the 12th December, 1892, for treatment of Pneumonia of the left side, with the following history and symptoms.

History.—Patient is a married man, has no children, is weak and sparely built. Last year he suffered from bad bronchitis. During this season before this illness he had fever for twenty days, and in course of his duty was exposed to night air and chills, and became very bad with high fever, cough and bloody expectoration, he was then taken to the hospital for treatment.

Symptoms.—Fever, temperature 103°8, pulse thrilling, face flushed, nostrils much dilated during inspiration, tongue dry, red and cracked, breathing hurried, lying on the left side much preferred, any attempt to change this posture brought on a sense of suffocation and cough. The left mammary and

axillary regions very painful and sensitive to touch, expectoration now numular, and tinged with florid blood.

Percussion.—Dull all over the axillary and mammary regions on the left side. On right side more resonant, the supra-clayicular regions more resonant on the affected side than the other. The impulse of voice distinctly felt over the affected area. Heart's action or impulse felt easily.

Auscultation.—Over the affected area, including six inches in diameter occupying the left axillary and mammary regions, distinct bronchophony and œgophony noticed, and the vesicular murmur in the right lung was much exaggerated; that in the upper part of the left lung amphoric, audible in the sternal and supra-sternal space, and bronchial breathing with tracheal *rales* distinct. Respiration was hurried, but inspiration was short and in small sobs. Heart sounds more audible, there was a low presystolic sound present, and pulse at the wrist felt a peculiar thrill after 10 or 12 beats, but regular.

Treatment.—Hot poultices made by adding a little oil of turpentine to the ordinary poultice, was applied while still warm on the affected part every two hours for the first twenty-four hours, and internally to cut short fever quinine hydrobromate in five grain doses given thrice a day, this took down the heat. The cough was treated by warm decoction of *moondee* given in ℥iv doses, six to seven times a day. This produced profuse perspiration and diureses, the cough eased, and breathing was not so difficult as before.

14th December, 1892.—Expectoration less, blood in the sputum, pulse 85, temp. 100°6, tongue moist and clean but still cracked and pointed, margins red. Bronchial and lungs signs less marked, no sleep at night. Warm decoction of *moondee* was persevered in.

16th December, 1892.—Better, expectoration less, no œgophony or *rales*, slight bronchophony still heard over the affected area, no fever, temp. 99°2, pulse 90, respiration easier, skin moist, had six motions, very loose, fœtid and copious. The same treatment continued. Simple poultices used, no pain complained of now.

18th December, 1892.—Better, no expectoration, no pain, no fever, dry cough, tongue moist and clean, temp. 99°2, pulse 90, bowels loose, skin moist, appetite good, often passes large quantity of urine.

22nd December, 1892.—Better, only weak and convalescent. The decoction was now given in two ounce doses three times a day, meat and rice diet given, patient improved, subsequently cured and discharged to duty, on the 30th December, 1892.

(To be Continued.)

THE TREATMENT OF PNEUMONIA.

By R. N. Ghosal, L.M.S.

Whilst a student in the Calcutta Medical College in 1891, I was anxiously watching with much interest, *Kali*, a very important case of double pneumonia, under the treatment of Dr. Birch Professor of Medicine, with the object of describing the line of treatment as adopted in this case and in others by our learned Professor, and I hope there is ample justification in my doing so.

It is absurd to cut short the disease by heroic methods, by aconite and antimony.—It is imperative that the Physician should guide, or in plain terms—simply conduct the case through danger. It should be always remembered, that *cardiac failure* is the real source of mischief in pneumonia.

The intensity of the disease and the resisting power of the patient should be carefully watched; and along with other minor things, the ventilation of the room should not be lost sight of. By the term ventilation, it is not to be supposed, that an actual draught of air, continuous through the room is absolutely necessary; two corresponding windows open at some distance from the patient will be quite sufficient. The physician should see that there is no confusion in the room, that the room is darkened, and that persons other than the immediate attendants, are strictly prohibited from entering.

Diet.—This should be considered as of paramount importance. It should always be nutritous and digestible. Milk, meat essences, white of egg, arrowroot and chicken broth—with these the patient will get on admirably. A small quantity of brandy or port wine in ½ oz. doses is always necessary in minor cases, but in grave cases, a very large quantity of brandy and nourishing diet is imperative.

The bowels.—If actual constipation is present, a mild aperient is necessary. Dr. Birch always tries to avoid the use of calomel, he prefers rhubarb and castor oil. From beginning to end, to husband the strength of the patient is a necessity. The service of a good and well selected nurse is very essential.

Rest.—There are two things which interfere with *rest*. These are *cough* and *pain*, and should be relieved. Some prefer blisters, but it is rather agonising. A mustard plaster for ten minutes only, and then a hot linseed poultice over it, will sometimes effectually moderate both the cough and pain.

At the earliest stage, when there is a hacking cough with little or no expectoration with dyspnœa, it is better to prescribe.

℞.	Codeia	...	...	... gr. j.
	Vin Ipecac	...	...	... m x.
	Syrup Tolu	...	...	... ℥ i.

Dose.—One tea spoonful *to suck* during cough.

If there be sleeplessness present, morphia or any preparations of opium should not be used, though they are sometimes very useful in other cases. It is better to use—

℞.	Tr. Hyoscyami	...	...	... ℥ i.
	Pot. Bromid	...	...	... ℥ ss.
	Syrup Simpl	...	...	... ℥ i.
	Aqua ...	...	...	... ad ℥i.

It will be useless to prescribe Tr. hyoscyami in ℥ss. doses, or Pot bromid in grs. xx. doses, a little larger dose is necessary, With all these precautions, super-added with good nursing and feeding and with absolute rest the patient may recover, when consolidation sets in, codeia should be omitted from the *sucking* mixture.

In very bad cases alcohol is *the remedy*. Dr. Birch prefers brandy 8 to 10 ozs. in twenty-four hours, with plenty of chicken broth.

General treatment.—Camphor with Bark is good. It is sometimes necessary to reduce the temperature by phenacetine in preference to other antipyretics.

Sponging the surface; limb by limb, so as to prevent exposure is to be recommended. In India I do not prefer it. In Typhoid cases, Tr. digitalis does immense good. In some few cases packing is required. It is possible to lessen the dyspnœa by reducing the temperature.

Bleeding is sometimes useful. If there be any delirium, and asthenia, more stimulants are necessary. Ice should not be used profusely. If there be diarrhœa, it should be checked by chalk and bismuth. During convalescence, stimulants should be continued for some days; and to allow solid diet as soon as possible and Aitkin's syrup in ℥i doses twice daily, with cod liver oil ℥i after food for a month.

WATER.

A Lecture Delivered

By R. G. S. Chew, M.D., C.M., M.S.C.,

Late Analyst to the Corporation of Calcutta.

Ladies and Gentlemen.—Once again I, who am no adept in rhetoric, am placed before you, to lecture on a subject with which most, if not all of you, are but too familiar and yet there was a time not so very long ago, when neither I nor any of my craft would without imminent peril to our lives dare to expatiate on Chemistry.

* * For in days not long gone by
In some *lone* corner without tutor or a guide,
In danger and in secrecy, the first alchemists, plied,
The heinous crime of sorcery and transmutation tried,
Disheartened, yet they struggled on, till of all bereft;
Deserted by their friends, vanished all their riches;
Curs'd by a fiendish law, dragged thro' hedge and ditches,
Clothed in guise ridiculous and public burn'd as witches,
They of their labours naught save scrolls with mystic symbols left;
That world benighted was. Fire, water, earth and air,
Its Law laid down were elements, gainsay did any dare,
He straightway drown'd in *water* was, exposed to vulgar stare.
Or, if a gibbet handy stood, hang'd up to dry in *air*,
Or, if he were of little note, was smothered in the *earth*,
While the alchemists doom was *fire* to the din of hellish mirth.

But, thank a just Heaven, things are widely altered for the better now, and the same law that was once so bitterly stringent against chemistry, now not only gladly extends its arms to receive anything that Science, the will of Him who rules the Universe, may unfold to it, but by dint also of Schools, Colleges, and Government and Municipal laboratories, encourages the cultivation of what the world in its benighted infancy chose to term *occult art* or withchcraft, and water analysis that was once ridiculed as a "parcel of nonsense, for the pastime of *fools*" has now become a matter of national importance: so much so, that the Municipal Act demands that an analysis should be made of it, at least once a week.

It is a pity, however, that the rate-payers of Calcutta are apparently too disinterested to demand, that the results of such analysis be from time to time gazetted for public information and some return be in this wise made for the heavy taxes they are required to pay; but it is scarce my place to suggest anything while the Corporation possesses a whole-time and thoroughly efficient Health Officer, whose services they specially engaged on account of his analytical ablities, which (latter) however, they never thought fit to at any time call into requisition during the three years that I held the sinecure of Analyst, wherein I was supposed to be an assistant, without any principal to assist, with plenty of work and more censure than praise, in a position whose duties often brought me in conflict with one portion of the public, while I endeavoured to ensure the safety of the majority from disease and death. However let digressions rest themselves, while I return to the subject before us to-night.

WHAT IS WATER?

Is a question hard indeed to briefly answer, as the chemical explanation is almost as suppositiously based as are most of Euclid's definitions with the exception, that *synthesis* may prepare the water of chemistry (H_2O) to produce which two atoms of Hydrogen are by the electric spark compelled to combine with one atom of Oxygen.

We must not therefore take for granted the Health Society's definition which says—*water is a mineral produced by the rusting of the gaseous metal hydrogen, which latter, though known to us in its gaseous state, is a metal and water is to the metal hydrogen what rust is to iron, rust is an oxide of iron, the result of the chemical union of oxygen and iron. Water is the oxide or rust of hydrogen.*

Is it wise for such a Society to attempt to mislead the very people for the good of whose interests, it claimed itself to have been forced into existence, by publishing statements and definitions as far-fetched and imaginative as the tales of the Arabian nights? For without the presence of *moisture* Iron will not rust, while moisture is in no wise necessary to the production of water, whereas, *dry heat* is, and such heat will prevent iron from rusting.

Unless prepared by combining hydrogen and oxygen by the medium of the electric spark, or by passing a current of *dry* hydrogen over the surface of *ignited* oxide of copper, chemically pure water does not exist in nature, and it was only a little over a century ago (A.D. 1781), that Cavendish and James Watt working independantly (and without the knowledge of each other) proved water to be a compound, every molecule of which contained two atoms by volume of hydrogen and one of oxygen, or eight parts by weight of oxygen to every one of hydrogen.

The chemical formula of water is H_2O or HOH, and its relative weight is 9 while its molecular weight is 18.

Its specific gravity as a vapour (*i.e.*, steam) is 0·622, as a liquid (*i.e.*, *water*) is 1, and as a solid (*i.e.*, *ice*) it is 0·918. If unity (*i.e.*, 1.) be written as the standard of comparison, these figures stand as they are above given, but, if as is sometimes

thought convenient, 1000 is accepted as the integral number, the above densities must be read as 622,1000, and 918· respectively.

At 4°C. or 39·2°F. a gallon of water measures 0·6104, cubic foot or 276·72 cubic inches and weighs 10 pounds or 160 ounces Avoirdupois; but at 62°F or 16·7°C one cubic inch weighs 252·456 grains and 1 cubic foot of water (at the temperature of 62°F) will measure 6·2335 gallons, and equipoise 997 ounces Avoirdupois.

Water freezes at or below 0°C (*i.e.*, 32°F) and boils at 100°C (*i.e.*, 212°F). It contracts regularly on the abstraction of heat till it reaches a temperature of 4°C· (39·2F) when it expands and continues to do so until it freezes. It attains its greatest density at 4°C (*i.e.* 39·2°F) and when it congeals it occupies just as great a space as it did at 9°C (*i.e.* 48·2°F).

Absolutely pure water is never found naturally: Thus the most transparent ice, the whitest snow and the clearest rain all contain small quantities of air, and various salts and a little organic matter.

The nearest approach to purity is distilled water on which is based the standard with which are compared the densities (*i.e.* specific gravities) of liquids and solids. Distilled water is insipid and devoid of smell or color while it is neutral to litmus papers, and does not leave a residue when evaporated.

Natural waters which are of uncertain composition, may be classed under two headings.

I. *Salt* or *sea-water*, of which the occan and several lagoons are composed, has an average specific gravity of 1·0274 and contains about 3·6 per cent. of saline matters. It is an excellent disinfectant and people living on its surface or hard by its shores are seldom sick or sorry. It is also a great nerve invigorator giving tone to the nervous system and acting as a great stimulant to the *skin*: on which latter account people suffering from cutaneous affections (*i.e.* skin diseases) can neither bathe in the sea nor live in its *close* vicinity without becoming worse and irritable.

II. *Fresh* or drinking water, which, according to its source of supply may be subdivided into 1, Rain-water, 2 Dew, 3 Ice-water, 4 Snow-water, 5 Spring or River-water, 6 Water from Granite, Metamorphic, Trap-rock and Clay-slate strata, 7 Water from Hard-oolite or mill-stone grit, 8 Soft sand-rock water, 9 Loose sand and gravel waters 10 Lias-clay waters, 11 Chalky water, 12 Limestone and Magnesian-limestone waters, 13 Selenitic-waters, 14 Clayey-waters, 15 Alluvial (*i.e.* mixed sand and clay) waters, 16 Surface and subsoil waters, 17 Marsh or swamp or Bog-waters, 18 Mineral-waters, 19 Grave-yard-waters, 20 Tap or filtered-town-supply waters, 21 Condensed steam or distilled water.

Every one of these foregoing 21 headings may be further sub-divided into several minor heads, each named according to the geological strata through which it passes or according to any other mechanical or natural condition with which it may come in contact, but it is not my intention to split straws or to take my audience over all these numerous finenesses of distinction, as for all purposes and investigations, practical or analytic the 21 sub-divisions above named furnish the engineer, sanitarian, or experimenter, with most if not all the data necessary to a knowledge of the main sorts and conditions of water enabling him to distinguish what constitutes potable or—

PURE, OR WHOLESOME WATER.

Although it is impossible to judge the wholesomeness or not of a drinking water, by depending solely on the evidence evolved by any single one of the processes hereafter to be detailed, for the examination or estimation of organic matter in solution, held or suspended by the water under consideration, and even though there are neither sound grounds nor legitimate, to establish a general or uniform standard of purity, yet on the safe side do we stand, when we maintain that to be pure and wholesome, a water must possess the following properties:—

1. *Physical character.*—It should be limpid, odorless, transparent, cool, well ærated, bright, soft, and entirely free from taste or suspended matter of any sort. It should also be fresh, and its temperature not be higher than 15°C (*i.e.* 59°F).

A gallon of such water should not contain more than:—

Organic matter	0.56	gr.
Albuminoid Ammonia	0.07	gr.
Mineral Salts	35.0	grs.
Chlorine	0.56	gr.
Sulphuric Anhydride	4.20	grs.
Nitric Anhydride	0.14	gr.
Silicæ	2.1	grs.
Iron	0.21	gr.
Alkaline earths	14.0	grs.

3. After being kept for some in an open or closed vessel it should not acquire a disagreeable odor.

4. It should not contain animal or vegetable matter, more especially if they are decomposing, and should be destitute of Bacteria, Infusoria, White Algæ, and other living organisms.

5. The air that it holds in solution should contain a larger proportion of Oxygen than does ordinary or atmospheric air.

6. Sulphuretted Hydrogen and other noxious gases should be entirely absent.

Now though this standard of purity may be a very good guide to aid the analyst in forming his conclusions, still let him bear in mind, that the conditions insisted on by such standard must not be too much relied on, as there have been cases where judging from a chemical point of view as to their alleged purity, certain waters which proved to have small quantities only of mineral and organic impurities were pronounced wholesome; but produced epidemic disease shewing that chemistry failed us.

Yet have we the consolation, that these cases of failure which are extremely rare are to be explained as being due to the contamination of the water by special poisons (mind I do not say germs), which should they enter the system even in exceeding minute quantity are capable of producing or inducing to cholera, typhoid fever, and other epidemic diseases, more or less of malarial origin.

Again, a water may contain a large amount of nitrates and nitrites (Frankland's rock of despair), with but little ammonia.

and albuminoid matter, and yet by experience be proven fit for potable and other domestic purposes, or another water containing a large excess of mineral matter and nitric acid may with respect to its organic constituents be pure and safe enough for drinking purposes, though its hardness may render it unfit for any other domestic purposes save flushing drains.

Therefore as the lives and health of the people are dependant on his decision, the Analyst, be he Public or Municipal Analyst or Health Officer, should be extremely cautious in arriving at his deductions and inferences, for should he, by jumping at hasty conclusions or by carelessness, commit (regarding the fitness or not of water for potable purposes) an error of judgment, that may prove fatal to that community for whom he is engaged to labour, he may escape the rigor of the law or detection by his fellow creatures; but there is a power whom no man can cheat, and whose justice will one day overtake him.

On the other hand, that man who measures the quantity of organic matter the water contains (together with the circumstances under which these matters occur) as an index of the susceptibility of such water to contamination with the specific poisons of diseases such as ague, cholera, diarrhœa, dysentery dyspepsia and malarious, typhoid and scarlet fevers, honestly and faithfully does his duty to his fellow-man, by pointing out where the danger of infection exists, as well as how that danger may be averted.

Now as water possesses to a tall extent the power of absorbing or holding in solution a vast variety of gaseous liquid and solid matters with which it may come in contact, while passing through the many substances and strata of which the earth is composed, we may therefore naturally infer, that in these manners water becomes more or less contaminated with many impurities which for convenience sake may be numbered under four great heads:—I. The gaseous, II. The in-organic, III. the organic and IV. Micro-organisms.

The chief gaseous impurities are carbonic acid, sulphuretted hydrogen, carbo-hydrates or hydro-carbons, and nitrogen compounds with occasionally a trifle of coal gas; but of all these, carbonic acid is the most common and may be considered the most mischievous, as it is very readily absorbed by water, which it then assists in dissolving rather large quantities of various substances with which it comes in contact while percolating through the soil, but which pure water is incapable of dissolving except in minute amount, and it is a well known fact, that the soil contains in its interstices and mixed up with its component parts, 250 times more carbonic acid than air is ever found to possess.

Ærated water manufacturers take advantage of this peculiar absorbent property of water, by sur-charging it with carbonic acid, evolved by the action of dilute vitriol on chalk. Were the chalk and acid pure, and the water good, instead of harm accruing, the ærated water would both be palatable as also beneficial to the system, but very frequently the chalk is dirty, containing scraps of organic matter and iron salts, while the acid is often impure, with the consequence, that ærated water has in some instances proved fatal through the quantity of sulphuretted hydrogen and other noxious gases that have passed into solution with it, during its process of manufacture.

II. The inorganic, or the compounds of minerals and metals with various acids to form very many salts, the most common of which are:—chlorides of sodium and potassium, sulphates of lime and sodium, and carbonates of lime and magnesium, both of which last are mainly held in solution by the excess of carbonic acid absorbed by the water.

Variable proportions of Aluminium, Ammonia, Barium, Bismuth, Cadmium, Cæsium, Calcium (or lime) Cerium, Cobalt, Copper, Didymium, Glucinum, Iridium, Iron, Lanthanum, Lead, Lithium, Magnesium, Molybdenum, Niobium, Osmium, Palladium, Potassium, Rhodium, Rubidium, Sodium, Strontium, Tantalum, Tellurium, Thallium, Thorinum, Titanium, Uranium, Vanadium, Wolfram, Ytrium and Zinc, are frequently dissolved in water in their various combinations with:—Boron, Bromine, Carbonic acid, Chlorine, Chromium, Fluorine, Hydrofluoric acid, Hydrogen, Iodine Manganese, Nitrogen, Nitric and Nitrous acid, Oxygen, Phosphoric acid, Selenium, Silicon, Sulphur, and in some cases (as in water obtained from graveyards and morasses) Fatty and Organic acids.

Sometimes, but happily, very rarely, Antimony, Arsenic, Mercury, Silver, Strychnine and other poisons have been met with, as was the case in the terrible times of the Indian mutiny and the Roman wars, when the insurgents, by poisoning the water supply, strove to destroy those of their enemies whom they could not overcome by fire and sword.

However, it is impossible to find in any one sort of water the whole of the preceding substances, many of which being incompatible, will precipitate each other from solution, thus if you will watch the various changes in the color and constitution of the contents of these flasks, all of which appear colorless and transparent, I will shew you that the same water cannot possibly at the same time contain—

a Barium salts and sulphuric acid; as the moment that I throw a drop of baric-chloride solution into a water containing sulphuric acid, down comes a white deposit of baric sulphate.

b In adding a little silver nitrate to chromium in solution, you note a muddy color and a precipitate of chromate of silver.

c Almost as soon as these drops of copper solution touch this clear solution of ammonia, an intensely blue color forms.

d. Again in these three flasks before you is a colorless solution of iodide of potassium, into them I respectively pour equally colorless solutions of Lead, Mercury, and Silver, and as if by magic there are different colored deposits in each flask, and now on pouring these solutions into these other flasks containing a solution of sulphuretted hydrogen, brownish-black precipitates of the sulphides of lead, mercury and silver are instantaneously thrown down.

e. This sample of water, I this morning removed from the tank of a certain ship that has been lying in moorings for some time, and the crew of which refused to drink it. No wonder,

for though it looks clear enough, still the dark blue color that now forms as I pour in this solution of mixed cyanides, proves the water to contain more than its fair share of iron salts.

f. This Winchester quart contains some water collected from the huge tank in Dalhousie Square, commonly called the *Lal Diggie*. I will not trouble to distil it; but the amber color produced immediately on the addition of this Nessler's re-agent, shows it to contain a large proportion of ammonia in solution.

And so on with a whole host of salts, so numerous that I could keep you amused all night watching experiments similar to these just performed.

III. Pollution by organic matter (*i.e.* the products of animals and vegetables) has a marvellous variety of sources as may be seen by anyone familiar with the habits of the people of this country (India), where the tanks are too frequently made the catch-water basins of all the surrounding drainage, the filthiest portions of which settle in the tank, while only the spill-water runs off the surface.

In the suburbs of Calcutta, privies are still to be found either directly *over-hanging* tanks, or erected along the course of wet-ditches communicating with the tanks, on the margins and slopes of which (latter), the natives habitually defæcate and after relieving nature, cleanse themselves in the water (adjoining).

Men, women, and children bathe, and while bathing urinate and spit in the very tank in which they will afterwards (perhaps not half an hour later) wash their food (prior to cooking), clothes, platter, and domestic utensils: Cattle are also driven down to the tank to drink or they stray down to the water and cool themselves by wallowing in the water in which they also micturate and defæcate.

Baboo Kanai Lall Dey, a chemist of ancient standing, and once an assistant of the well known Dr. F. N. MacNamara, was so annoyed at this wilful carelessness in such an important particular on the part of a people, whose daily life is so strongly tinctured with religious ceremonies, and who theoretically are so careful to avoid contamination and impurity in their food and persons, but at the same time blindly overlooked their own defilement of water in the manner above described, that he censured them in the following words:—

Tank water or water from artificial reservoirs is not pure or holy in the meaning of the shastras (i.e. religious books) and it is therefore not usable in religious rites and ceremonies. It may be used for drinking, and other domestic purposes where Gunga water is not available, but the greatest strictures are enjoined in the shastras for keeping it clear of all impurities. Menu (a Hindu law-giver) *says a man should not cast into such waters, either urine or ordure or saliva or cloth, or any other things soiled with impurity, nor blood nor any other kind of poison.*

But river water is similarly polluted, though from its rapid motion, greater volume, and more complete oxidation, the evil may not be so great as in the case of the water of tanks and reservoirs, still it is there and his respect for *Gunga Mai* (the sacred river Ganges) probably prevented Kanai Lal Dey from seeing or recognising the tons of filth that the sanctified Ganges brings down for the benefit of its devotees.

For higher up the river, and towards Dinapore, it is a common practice to commit the dead to the arms of mother Ganges, who carries them on her muddy bosom till they are either devoured by fishes and their kin, or stranded in some bend or shallow, furnish a dainty meal for jackals and vultures; but not before they have imparted to the water some of their ghastly decomposition which is hurried along sea-wards, down, down, to Calcutta which it passes on its rapid course, but meeting the influx tide is sent back again in society with the droppings from the starboard scupper-holes of the ships, and the triangles of the lesser vessels, to mix with the water as it backward flows past Cossipore, to find its way into the settling tanks at Pultah where it may subside and then be passed on to the sand bed filters for purification (?) ere the water reaches our house-taps.

Strong but dreadful facts, these, that no man dared contradict without lying, and yet beyond our meagre power to battle with, so long as ignorance reigns supreme among the ryots and lower-castes of Indian folk.

Again what with storms, cyclones and freshets and careless husbandry, huge quantities of vegetable matter are either hurled into the rivers, which usually run through districts profuse in vegetation, or are torn up from its banks by the rapid currents, or growing and dying in the water where they subsequently decay.

Well all this pollution results in the production of nitrogenous and non-nitrogenous matter, whose presence in the water is mainly due to the introduction of albuminoid and decaying or decomposing vegetable and animal substances, which may either pass into complete solution or be held in suspension.

Of course, as the decomposition of these substances proceeds, the nitrogenous matters in the water constantly change, giving rise to acids and volatile alkalies, which in their turn produce other compounds, the exact nature and properties of which are not very thoroughly understood, and which, if not in themselves prejudicial to health, may in all probability furnish the materials necessary for the conception, production and nourishment of substances and conditions, that endanger the safety and health of persons.

IV. The great expense entailed for a really good microscope has caused this portion of the examination of water to be so much neglected as to give but a small knowledge of the life, growth, production and presence of living animal and vegetable organisms, too minute for detection by the naked eye.

As the gradations in the lower order of life sink, it becomes extremely difficult to clearly draw the line between animal and vegetable life, or to distinguish the one from the other; as, in fact, there are known several creatures, each of which is at one time of its existence an animal, at another a vegetable, and at a third period belongs to both the animal and vegetable kingdoms.

The field for microscopical investigations is still open and has already furnished us with long lists, which (though detailed at some length in "Kent's Infusoria," Slack's Marvels of Pond-Life;" "Chew's Water Analysis, and the Micrographical Dictionry), are by no means entirely complete as not a day passes without some new discovery, which besides helping to swell these lists to immeasureable dimensions brings to light matter that may astound the even, now enlightened world and make staunch vegetarians (?) shudder lest with every drop of liquid they imbibe or every grain of food they masticate they deliberately destroy countless myriads of animal life and micro-organisms, the most commonly known of which I now present before your gaze in these tiny tubes where with the aid of these lenses you will see them swimming about and the same creatures may be seen on these charts where I have sketched them some 15,000 times their natural size.

Now not so very long ago after plaguing them for more than a year, a certain "Board of Guardians" for whom I was then working invested a *huge* sum of money in the purchase of a really beautiful microscope; but this valuable instrument evidently did not like the idea of work for the key of its magnificent "case" somehow found its way into the pocket of the Head of my Office and accompanied him on his honeymoon tour across Australian waters, where it was either drowned or perhaps turned *brushranger* while the poor microscope languishing in its mahogany prison cried so bitterly that the whole of its steel-work got corroded (for want of occasional cleaning) and the lenses were utterly ruined, and Ladies and Gentlemen, will you believe it "poor me" was severely censured although I was in no way to blame for the damage.

However, had that instrument been properly cleaned and diligently used, numbers of micro-organisms as yet unknown may have have been revealed and a fresh impetus probably given to *faddists* of trying to prove (without trying measures to remove or relieve), that *every* disease is in some manner due to microbe influence.

That germs are associated with and may aggravate many diseases I quite admit, and it is also true, that a *few* maladies are greatly dependant on microbe influence, but I who am not maniac or fanatic sufficient to consent to germ theory of universal causation of every complaint do maintain and have always held, as well as feel positive, that every sane mind will concur with me, that *microsopic results unless* EXTREMELY *definite should not be depended on till they are supplemented by chemical analysis and stringent personal local investigations.*

In due course we ascertain, that the sanitary examination of the fitness of water for domestic use is based on two systems, the *physical* and the *chemical*, the former embracing the color, taste, smell turbidity and microscopic characters of the water, while the latter determines the presence and amounts of—the suspended matters, the solid matters in solution, the chlorine, sulphuretted hydrogen, hardness, nitrates and nitrites, ammonia and albuminoid matters, poisonous metals, and the organic carbon and nitrogen.

COLOR.

Is often tested by comparing the water under examination against distilled or other standard water or mixture, and this may be done by a variety of methods the handiest of which is supplied by this long glass tube, which is of one inch diameter and the outside of which, is smeared over with lamp black while to its lower end is cemented a very thin microscopic cover-glass. I completely fill this tube with the water I am testing and after closing the upper end with another cover-glass, I look down the tube which I hold in such a position, that the light shall so fall upon and strike upwards through the lower cover-glass as to enable me to judge the color.

Another rough but fairly good test consists in taking two *thin* white-glass flasks of equal calibre and capacity. One of them I fill up with the suspected water and placing it alongside the other flask, which filled with distilled water rests on a clean sheet of white paper, compare the difference.

Should the water contain much suspended matter or animal life and vegetable *debris*, or present a very dark tinge, it *may* safely be regarded with suspicion.

I say *may* advisedly, because the varied tints may be due, either to the refuse, washings of dye-works finding their way into the water, or to dissolved animal, mineral, and vegetable compounds, getting mixed up with it and yielding secondary, tertiary and many other coloring compounds.

For instance, water from bogs or peaty soils prevents various shades of amber, brown, or straw, while some deep well waters have a milky tinge and several tank waters exhibits strong shades of *brown* and frequently *green*.

But at the same time let it be borne in mind, that though these different shades of color may *point to*, they do not always *prove* pollution, for many waters there be; such as those containing iron salts, those from peaty soils, and those from certain artesion wells, that are of great organic purity, and yet have a strong brown or yellow color, while many waters that are perfectly clear and transparent are extremely dangerous to drink, as you will see from these bottles which contain *colorless* solutions of arsenic, baric chloride and sugar of lead, all of which are decidedly poisonous.

(To be Continued).

A Mirror of Practice.

SURGERY AT THE RANCHI MUNICIPAL HOSPITAL AND DISPENSARY.

By Naresh Chandra Mittra, M.A., M.B.

Surgery is not popular among the residents of this place. It is due to the dread, which the people labour under of the pain and suffering of mere cutting. Although they see cases recover after operations, their averseness to any, the slightest, is notorious, from a simple tooth extraction to any of the major operations. They resort to the dispensary for surgical interference when they are given over as hopeless, or when they are

in the utmost agony. The climate of the place tells against the production of such diseases as scrotal elephantiasis or vesical calculus. It is a rarity to see any of the *kols* with a big scrotal tumour. Now, one would be surprised to find such large numbers of sufferers from this disease in the neighbouring districts of Burdwan, and Midnapore, and Birbhoom. And most of the cases that come to the Calcutta Medical College Hospital for operative relief, hail from the two latter districts. As for stone cases, it is almost a rare thing, but it has been contended by some, that the patients, do not come to Hospital from dread of the operation. That cannot be the case, calculus is not a disease to be passed over, as with scrotal tumour, where the subjects are put to no actual suffering, save slight inconvenience. Bearing in mind the pain and immense suffering which stone cases have to put up with, it is against human nature, that they should not seek relief at even the pettiest dispensary. I have looked over the operation list of the Ranchi Dispensary for the last 15 years, and have not met with a single case of lithotomy for vesical culculi, excepting one in 1890, operated on by Surgeon-Major T. R. Swaine for a small mulberry calculus. I have removed three calculi from the urethra of three patients at this dispensary. In all of them, the patients were in acute agony, for the calculi were almost obstructing the passage of urine. Two of these were removed by simple extraction with forceps. One was so thoroughly imbeded and impacted, that the meatus had to be slit open to facilitate extraction. The notes in the case of the last one is curious. One morning, this patient came to the dispensary in great suffering. I felt with a probe that the stone was not far off. Then firmly pressing the penis behind the seat of the stone with two of the fingers of my left hand, I introduced a pair of dressing forceps through the meatus and taking a firm grip of the stone I extracted it, but to my surprise a few particles only came out, and on feeling it again nothing could be detected. The man then went to pass water, which he did quite freely without feeling any obstruction. But the point to note and about which I am still uncertain, is whether the stone itself was of the size taken out, or whether it made its way back into the bladder, still, it is quite impossible for the stone to slide back into the bladder while the penis was being strongly pressed, and held by my fingers. There must be some peculiarity in the soil and water of any locality that conduces to the formation of calculi. For, proceed westward and gradually, one begins to meet with these cases in Gya, Monghyr, Bankipore, and westward still, we find even infants suffering from this disease. A critical examination of the soil and water would lead to more satisfactory explanations. It has often been held by medical authorities, that the popularity of a medical institution is measured by the success of operative surgery, no doubt it is true to some extent. And Bengal Hospitals are always found fault with owing to the low numbers of their surgical practice, as compared with the sister provinces. But the soil and water make a vast difference, let any one visit any of the dispensaries of the N. W. P. or the Punjab, he will be surprised by the number of stone cases attending these. To impute to any lack of surgical skill where the climate answers for the deficiency, does not stand to reason. A comparison of surgery of stone-cases of Bengal with that of the N. W. P. and the Punjab will convince any one of the cogency of my remarks.

III. Cataract.—Whether Cataract is common among the residents of this district, is not easy to say, but judging from the number of cases coming to the Dispensary it seems, that the number is far below that of the N. W. P. or the Punjab. The greatest difficulty is, that these patients are most unwilling to submit to any operative measures for cure of their blindness. The operations for the extraction of lens are those recommended by Von Græfe and the incisions are mado sclero-corneal by knives of special make and shape, which go by his name. At first I used to operate after having the pupil thoroughly dilated with atropine (gr. v. to ℥i). The worst of it was, that as soon as the corneal incision was made, the aqueous humour escaped and along with it the iris prolapsed. To obviate this prolapse of the iris, eserine, as recommended in Dr. Swanzy's book is dropped into the eye prior to the operation, and when the pupil has contracted to a pin point, corneal incision is made, iridectomy performed, and the lens extracted. In some cases it is found, that repeated instillation of eserine sulph (grs. 8 to ℥i) is not only inefficient in contracting the pupil, but rather tends to dilate it, so that to avoid prolapse of the iris, the incision is made not so peripheral, and the result is, that great difficulty is met with in extracting the lens from the capsule, the reason of this is not far to seek, for the incision not being a peripheral one, gentle pressure below the lower edge of the cornea with the *curette* only pushes the lens against the upper edge of the peripheral corneal tissue, below which the incision is made; and it is after a good deal of manipulation and depression of the lower end of the lens, that the upper end tilts up through the corneal incision, and then delivery is complete. Thus an important question sometimes arises, whether to anticipate prolapse of the iris by making the incision peripheral, or to obviate it by passing the knife a little lower down; bearing in mind the amount of trouble one is put in the latter case, it is as well to allow the iris to prolapse and to incise it off. Loss of the vitreous or dislocation of the lens does not leave an eye totally useless, but a certain amount of vision may be retained. In one of the cases, the corneal incision and iridectomy having been made, the capsule of the lens was completely torn in the best way possible, but the lens could not be delivered out by any means, while further manipulations were being carried out, a little vitreous humour escaped, and the lens was dislocated backwards. The eye was dressed every day and atropine dropped. A fortnight after, it was found out, that the patient had sometimes very good vision, especially when the eyes were kept bandaged up and he could only peep through a small opening in the bandage. It is very curious to find one system of treatment advocated by such master minds as Swanzy, whilst quite a different method is followed in Calcutta with no less success, for I have seen Dr. Sanders, Ophthalmic Surgeon, Calcutta Medical College Hospital, never using eserine before operation, but he always makes the pupil thoroughly dilated

with atropine. And in his hands, when the corneal incision is made, there is rarely any prolapse of the iris, and moreover he does not perform iridectomy in every case.

IV.—H. M. *æt* 25, admitted suffering from a large pendulous tumour springing from the left arm. The tumour had existed from his infancy, latterly it had begun to increase in size till the present shape and size attained. It was more or less of the shape of a common gourd. The skin over the apex of the tumour was adherent to it, but the tumour had no deep connections with the structures of the arm, for the muscles of the arm contracted visibly beneath the skin of the tumour. The patient was in weak health and very lean. He had small fibrous nodules all over the body. The inconvenience caused by the large tumour obliged him to seek relief at the hospital.

Operation.—The patient having been put under chloroform, an elastic cord was tightened round the upper part of the arm, the tumour was completely removed by excision with a knife, all the arteries having been tied, the bandage was loosened, and profuse hæmorrhage followed. It appeared, that a number of new venous channels had formed connecting the tumour with the arm. The bandage was again applied, and a number of these veins were ligatured. The cord having been loosened, hæmorrhage commenced again, from those veins which formed many small branches, and the walls of these were so thin, that they gave way on being tightly ligatured. After application of steady pressure, all bleeding stopped. The flaps of skin were stitched with catgut ligatures and horse hair. The patient had fever for one week following the operation. The wound was dressed antiseptically, the discharges were never offensive. After one week, the whole of the left forearm swelled tremendously, and with it the patient got fever with rigors. The swelling of the forearm resembled more an inflammatory one of the lymphatics, than erysipelas. The ligaturing of many small veins or it may be lymphatics might have given rise to the swelling, but it is curious, that the circulation went on well for one week before any obstruction was met with. The swollen part was painted with *Tinct. Ferri* and *Glycerine*, and bandaged over with cotton wool. The fever was regularly of a malarial type ushered in with rigor. He was given antefebrin mixture every three hours till defervescence, when quinine in grs. x doses was administered. The fever could not have been due to the absorption of any poisonous material from the wound, for the wound was almost an open one and was fairly granulating. The patient had come from a place notoriously malarial and there can be no doubt, that the poison of malaria manifested itself in a weak and debilitated system. The swelling of the forearm went down in a week, but curiously enough the whole of the face and both the ears swelled up. The urine was examined for albumen, but there was no trace of it. These swellings are, I think due to malarial poison. I have had occasion to notice similar swellings in other patients whose histories I will give later on. The puffiness of the face and ears went down in three or four days, and the patient left the Hospital completely cured after a month and half.

(To be continued).

ŒDEMA OF THE GLOTTIS.

By R. N. Ghosal, l.m.s., Calcutta.

I had a very interesting case at Kotchandpur, 12 miles distant from Kissenganj Bazar Station, E. B. S. Ry., a month and a half ago. It was a case of œdema of the glottis with ulceration and sloughing of the adjoining parts of the larynx, consequent on a distinct history of syphilis. The history of the case is as follows:—

The patient, *æt* 47, a rich and respectable merchant, was a sugar refiner by profession. I was summoned there to give him some immediate relief, but contrary to my expectation I found him gradually sinking. But as there is some interest in the case, I report it: He stated in a low whisper and in broken sentences, that about a year ago he had a profuse hæmorrhage while coughing, after a sudden attack of chill. The hæmorrhage was so profuse that it was measured by pints. He had another attack after a week or so, and since then he had none. He gradually began to experience loss of strength and flesh, and his voice gradually grew into a whisper. He left Calcutta and gradually became worse under the treatment of a native doctor who painted his throat with a pencil of caustic a week before my arrival. This aggravated the symptoms.

When I saw him he was a mere skeleton, but he could still manage to lift himself up, and answer my questions intelligibly in a whisper: He used to call his servants by whistling. I watched him from morning till 8 p.m., on the day of my arrival, to see how he could manage to take his food, as I heard, that he could not swallow any solid or liquid food, and at any attempt to do so, he experienced a fit of spasmodic coughing, alternating with fits of dyspnœa. I watched him when he was taking a little semi-solid sago prepared for him, with considerable difficulty. Half the quantity he managed to get down, and the rest came out through his nostils, and a portion of the swallowed quantity he vomited after a minute. I examined his chest and heart, but there was nothing wrong. I examined his larynx and found distinct ragged sloughy ulcers on the tonsils. There was a carious tooth and consequently a fœtid smell in the breath. But these could not reasonably account for the symptoms of dysphagia, that I had observed. Accordingly, I painted his throat with—10% solution of cocaine twice, and then examined his larynx after half an hour by the aid of a laryngoscope and found distinct ulcers distributed all around the larynx lower down, and the glottis œdematous. There was a history of syphilis.

I prescribed antiseptic steam inhalations, and I also touched the ulcers with a preparation composed of one grain of hydrarg perchloride in one ounce of glycerine, and prescribed an antiseptic gargle and fomentation. I took the temperature in the morning which gradually rose to 103° and this temperature I heard had been persistent for more than a fortnight. This distinctly pointed to a case of hectic fever. I suggested a consultation, but he declined. He continued like this for a day or so, and then died.

The notes of this case are interesting from many points, and I therefore send them for insertion in the columns of the *Medical Reporter*.

A CASE OF HÆMATOCELE.

By Assistant-Surgeon T. M. Shah,
Junagadh State Hospital.

30th September, 1892.—Jivi Otamchand, H. Female, *æt* 28 years. Has had no children, and has never conceived. Began to menstruate when 14 years of age, and the catamenial discharge recurs every 15 or 20 days. It is painful, and lasts for three days, pain was referred to the left side.

During this menstrual period commencing about the 25th September, she got a painful swelling in the hypogastrium. The swelling appeared first just above the pubes a little towards the right side. It appeared to increase in size daily and in the course of three or four days it reached as high as the umbilicus. The swelling seemed to be uniform, semi-solid, tender and painful.

It did not increase further, and the menstrual discharge continued for a fortnight. She suffered at the same time from nausea, retching, vomiting and restlessness, and more or less fever, temperature varied from 100° to 102°F., pulse was frequent.

14th October, 1892.—On vaginal examination the uterus was found pressed forwards, and to the left side, the os was felt just behind the pubes, vaginal roof behind the cervix was tender, but not tense nor protruding into the vagina. She suffered from tenesmus.

She was treated with rest, applications of belladonna introduction of a morphia pessary, and diaphoretics.

23rd October, 1892.—She did not improve for the first 3 weeks. Actual cautery was then applied by some native midwife. Had dysenteric symptoms and passed a sanguinous, puriform discharge per rectum. The tumour then subsided. It was perceptible a little above the pubes only. Had no fever, sympathetic vomiting or retching. Had a leucorrhœal discharge.

1st November, 1892.—Is quite well now.

7th November.—Menstrual flow has returned and is copious.

A CASE OF OTITIS ENDING IN MENINGITIS.

By A. P. Das, L.M.S.
Late Assistant-Surgeon, Chandney Hospital.

Binode, an healthy adult male, an inhabitant of the Hooghly District, came under my treatment on the 15th of September last, complaining of earache on the right side, with a discharge of watery fluid, intermittent and severe throbbing pain around the ear, and half headache on the right side.

Previous History.—No history of syphillis or scrofula, acquired or congenital, body well built and of medium size. No history of rheumatism.

When I saw him first he had no fever, but there was a slight inflammation of the meatus of the ear of the right side and the tympanum, as was made out by the auroscope. There was no inflammation over the mastoid process or temple, or anywhere around the ear. I prescribed cocaine gr. ii glycerine ʒiv, for local use as drops into the ear, three or four times in the twenty-four hours.

On the 16th night, he was exposed to a draught and got drunk, but in no way injured himself, and on the 17th morning he complained of severe headache, pain around the ear, and was feverish. In the mid-day he got an ague followed by high fever and delirium, I was sent for in the evening, and after examination I found the temperature 105°F., conjunctiva red, congested and watery, both pupils contracted. The discharge from the ear has stopped. The delirium was of a violent character, pulse full and bounding, head tossed from side to side. Bowels constipated and there was much flatulence.

I ordered a blister of cantharides to the back of right ear, and the nape of neck, also prescribed a fever mixture with tinct. aconite. ♏ j in each dose, and ordered that he be fed with milk, and let the blister remain for six hours till it rose well.

The fever abated by the morning of the 18th October, he was sensible, was able to talk and answer questions.

On the morning of the 18th January I found him sitting in bed, but complaining of his head which was very troublesome, otherwise feeling better. I ordered to wash the ear with a plain hot water *douche,* and to drop pure warm glycerine inside the ear and stop the mixture, as the temperature was 100° and to dress the blisters with simple dressing. I prescribed hydarg. subchloride gr. v. sodæ bicarb. gr. v., which operated twice by the middle of the day.

By the mid-day of the 18th he got a second attack of fever which was ushered in with chill, followed by a temperature of 105° was delirious and restless, and symptoms like that of previous day set in. I prescribed liq. ammonia acet. ʒii pot bromidi grs. xv. spt. æth. nit ♏ xx. spt. amon. aromat ♏ xv. tinct aconite ♏ ij, for each dose, and to be taken every 2 or 3 hours. After 2 or 3 doses he became insensible, stertorous breathing set in, great difficulty in deglutition, spasms of the muscles of both sides, pupils contracted, conjunctivæ not so blood-shot, hands and legs stiff, and gradually symptoms of coma set in, and thus he continued throughout the night and died on the morning of the 19th, at 11 a.m.

Remarks.—I record the notes of this case to shew, that a simple case of otitis may end in meningitis and death.

BRIEF NOTES ON THE CASE OF A YOUNG CHILD WHO DRANK KEROSINE OIL.

By Asst. Apothy. D. Robertson s.m.d.

A Hindu female child, about a year and a half old, drank about two ounces of kerosine oil from a tumbler containing some oil left in the corner of a room. The child immediately after drinking the oil began to cry, and so attracted the notice of the mother to the fact. It was brought to me at once (4-20 p.m.) smelling strongly of kerosine oil. Five grains of sulphate of zinc were at once administered, which acted freely, the vomited matter smelling of the oil. At 8 p.m., the child was restless, feverish, abdomen tympanitic and tender, face bloated. Passed a bad night, very restless, sharp fever. nausea with occasional vomiting, and suppression of urine. On the second day these symptoms gradually subsided towards evening. On the third day the child was well. The treatment besides the emetic was an ordinary diaphoretic with occasional addition of laudanum as the necessity arose. Milk was freely given, thirst was constant. The bowels were not in any way affected. Suppression of urine was a prominent symptom, no urine was voided till 28 hours after drinking the oil, and when it did appear, it came in drops, although there was a constant inclination to pass water throughout. I was informed that the child had passed water shortly before drinking the oil. Hot fomentations and bottles were employed.

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The Medical Reporter.
CALCUTTA: FEBRUARY 1st, 1893.

PROGRESS OF SANITATION IN CALCUTTA.

[After a paper read by the Hon'ble H. J. S. Cotton, C.S.I.]

It was in the year 1859, that the underground drainage system was taken into hand to replace the then existing system of open sewers, which has been steadily carried on and replaced the old system. The number of premises in connection with sewers in the city is twenty-five thousand nine hundred and thirty-eight, built of pipe and brick, of about two hundred miles in length. The substitution of the underground system and the obliteration of the old surface drains has resulted in what would naturally have been expected, a most marked improvement in the health of the city. In the suburbs—Entally, Bhowanipore, Ballygunj and Howrah, the old system still exists, and the condition of affairs as was in Calcutta may be realised by those who have no recollection of the of the old sewers; but a systematic drainage on the improved method is in contemplation, and the survey is now in progress in these surrounding localities.

The capital sunk in the Calcutta water-works is enormous, something very near two crores of rupees, of which almost half has been spent in improvements on the first scheme. The result has been not only improved health to the inhabitants, but also by the influx of influential residents, an increase of wealth to the city. The number of filtered stands were according to an official return something like one thousand, and the ground hydrants on the unfiltered system very near three thousand, house ferrule connections almost seventeen thousand, and the daily supply of filtered water is about thirty-six gallons per head, and of unfiltered about nine per head. The quality of filtered water is all that could be desired. The road-ways of the town have been augmented and the area of the roads watered has also been much increased, also the lighting and the quantity of refuse removed has more than doubled. Tanks which were the source of nuisance and disease have been obliterated by filling up, and except in the extreme north tanks are rare, they still exist in private enclosures. For the use of the poorer portion of the population bathing platforms have been constructed and are appreciated by them, also six large public squares have been constructed to the great advantage and convenience of those in the neighbourhood, and measures have been adopted at very great expense for the reclamation of native *bustees*. Calcutta has undergone a great revolution and in the words of a late Health Officer has 'to sight and sense in the living memory undergone a revolution' but there is no doubt, that during these last twelve years, since the subject of sanitation has been making rapid strides everywhere, there has been more progress than there had been in the twenty years previous.

Dividing this time into three quadrennial periods, the number of deaths recorded shew great diminution, but the most marked effect is on the health of the city, the price of land has increased very much, shewing what great benefits have been conferred on the city by the wisdom of improved sanitation.

The death-rate of Calcutta at present varies from 25 to 35 per thousand, the population is an immigrant one, more than half consisting of individuals who are adults, the majority of whom on their being taken seriously ill, leave for their native villages, the faith of the *hakimi* treatment still clinging to them, whilst the richer and more educated portion of the population when ill, come into Calcutta for treatment on account of the medical aid available and the sanitary surroundings which they will enjoy, and although the death-rate cannot be accepted as a correct test of the health of the city, yet statistics do enable us to form a comparision of the rate of mortality in different years, and it is interesting to notice the very great decrease in deaths from cholera and fever, since the improved drainage system has been introduced, and pure and good water supplied.

For the past fifty years the mortality from cholera has been carefully registered, and the average number of deaths annually from this cause during the five decades up to 1889, is as follows :—

	1840 to 1889.	Average annual No. of deaths.
First decade,	1840 to 1849.....	4,818
Second decade,	1850 to 1859.....	4,261
Third decade,	1860 to 1869.....	4,747
Fourth decade,	1870 to 1879.....	1,327
Fifth decade,	1880 to 1889.....	1,646

There is very little doubt a marked periodicity in the death-rate from cholera which seems to indicate some biological law in the life history of the contagion of cholera. The synchronous rise and fall in Calcutta and the surrounding districts of Bengal of cholera, is of almost invariable occurrence. There are no causes peculiar to itself affecting Calcutta, but those common to all the neighbouring localities, and although a considerable reduction has taken place due to improved sanitary surroundings and measures, yet there exists a more or less corresponding ratio between Calcutta and the population of the adjoining districts. And it is owing to this periodic severity of an epidemic can it be said, more than to any other cause, that the average number of deaths during ten years 1880 to 1889, exceeds to some extent the average of the previous decade. During the years 1882-83 and 1884, there was a severe outbreak of cholera both in Calcutta and the surrounding districts.

"And it is also true, that during the thirty years which preceded the introduction of a pure water supply *i.e.*, before 1870, there was a similar periodicity in the cholera death-rate; but during that period the lowest number of annual deaths was 2,268 (in 1867), and 2,502 (in 1848), and the highest was 6,826 (in 1866), 6,553 (in 1860), and 6,427 (in 1846), whereas after the introduction of the water supply the lowest annual death-total has been 796 (in 1871), and 805 (in 1880), and the highest 2,262 (in 1884)." It may be therefore said, that the cholera mortality is only one-third of what it was in former times since the introduction of a good water supply, and it may be admitted as Dr. J. M. Cuningham has pointed out "that the fall in cholera mortality in 1870, was partly due to other causes, that it was pronounced before one drop of water reached the city," but whatever the cause may be, it is strikingly noticeable, that the comparative average freedom from cholera which has been prevalent since the year 1870, can be accounted for only by the improvements in the supply of water which takes its date from that year. There has also been a marked diminution in the number of deaths resulting from fever, and the following statement which shews in triennial periods for twelve years the average annual number of cases of fever treated in the Calcutta hospitals, with the average annual mortality.

Years.	Average Annual No. of hospital fever Cases.	Average Annual mortality from fever in Calcutta.
1877 to 1879	41,670	5,344
1880 to 1882	31,835	3,726
1883 to 1885	27,497	3,630
1886 to 1888	24,704	3,291

These continued improvements as shown from the statistical returns of the Health Officer and in the hospital returns, are without doubt due to improvements in the drainage system, the obliteration of the surface ditches and the increased dryness of the sub-soil. Still, though the residents of Calcutta enjoy a comparative immunity from fevers, and people come into the city as they would go to a *sanitarium*, there is yet much to be done, before living in this city can be said to be salubrious. Cholera claims its victims, and a contemplation of the cholera map shewing the deaths resulting from this disease, shew how much remains to be done before the health of Calcutta can be said to be satisfactory. The attention of the Corporation has been called to the proper ventilation of the city by open squares and wider streets, for pure air is as essential to the health of the city as pure water. The over-crowding of buildings impedes the free circulation of air, and prevents the laying down of proper drainage. Calcutta has few open squares and little space between houses, the streets are narrow with winding lanes which afford little space for free ventilation. The Municipal Reports, statistics, furnish us with ample proof of the radical structural defects of Calcutta, and the great necessity there exists for the enforcement of stringent building laws.

Some of the roads in Calcutta are about 32 feet in width, the majority being, and this in the most thickly populated portion of the town, from 9 to 31 feet. The fine new street, known as the Central or Harrison Road, is as broad a street as there is in Calcutta, constructed at great expense, it passes through the most over-crowded and over-built portion of the native town, brilliantly lighted by electricity, and extending from Sealdah to the Hugli bridge, is a very important and valuable sanitary improvement. The great structural defect which prevails in Calcutta is, the existence of too many houses on insufficient space, this plan is radically defective, and whatever sanitary improvements may be introduced, the benefits will only be palliative so long as this defect continues, and it will never be possible to remove the reproach, that *Calcutta is the home of cholera*, until the present germ laden air is purified from all contagion by sufficient ventilation.

But, to introduce all of a sudden, Western ideas of sanitation into an Oriental city, there are great difficulties, and we must add in justice to the Corporation of Calcutta, that our City Fathers are energetically engaged in pushing forward the course of sanitary improvement. Progress in this, as in every thing else in connection with an Oriental race can only be gradual, owing to the conservative habits of the people, and the expenditure which could not be borne at once.

MEDICAL HEROES.

HEROISM is an indefinite term, what one class of people may call heroism, is to another class a matter of ordinary occurrence; still more diversified are the views of nations; different periods of time make great changes in estimating heroism. The gladiator was a hero to the Roman sightseers, who crowded the amphitheatre of Old Rome. In modern times the gladiator is considered a victim, sacrificed to the unnatural craving for blood and bloody scenes, that formed part of the unhealthy education of the Roman Citizens of that period: doubtless the gladiator if a free agent would have gladly avoided being a participant in the fitful triumph of the arena.

So different are the standards by which different nations measure heroism, that deeds which in one country cover a man with infamy, may in another country place that man on a pinnacle of fame. The Corsican's Vendetta and the Afghan's death reprisals are not called murder by these people, rather are the executors of vengeance fulfilled when and where opportunity offers thought to represent men of spirit, who vindicate the honor of their family or their clan, on the *eye for eye* principle. There are countries where thieves are honored, dexterous thieving places a man among them in the rank of heroes, in like manner, the voiding or breaking any one of the Hebraic ten commandments may make a man a hero if he can only get to the land where such breaches of law are honored; heroism is therefore, a translatable term.

There are however, one series of actions springing from one common root, any one of which, is acknowledged as heroic by all peoples. Let men be called upon to face death, and if when so tried, they show calmness and indifference to the result, it is called heroism. Let the trial be on the battle field

where men are undergoing a hail of shot and shell (a baptism of fire for many), and death is busy mowing down men in groups at every second; let it be on board ship amidst a a storm at sea, with the elements raging in their wildest fury and darkness covering the deep, while the good ship trembling in every fibre seems unable to continue the unequal struggle, and the men standing on her deck gaze into each others faces by the lurid gleam of the lightning's flash and read there, that life is hanging in the balance, every moment may be the last. Or it may be, that the traveller into distant and uncongenial lands, or the explorers of barren tracts, find themselves worsted and worn and weary dying of thirst on inhospitable sands, yet calm, as long as reason remains, though in such desperate straits, or it may be, the calmness of the man dying day by day, in his own home surrounded by his own people; most of us have witnessed the heroism of such death-beds.

We give in this article a few particulars of the heroism displayed by some French doctors when called to die—a vein of cynicism may be recognizable, but on the whole, there is calmness and strength of spirit, that quietness of soul in the presence of death, which men stamp as heroism; to our mind in asmuch as the mental strain, a man having medical knowledge has to endure under such circumstances is much greater than a man unacquainted with such knowledge would have to bear, the heroism shown by medical men is thrown into bolder relief. It is the sad and trying prerogative that medical men possess, to be able from their education to have a clear insight of their own maladies, to study every fatal symptom; and yet be powerless in certain cases to stop the progress of the disease. A doctor has the unenviable ability of knowing, that the death sentence has been pronounced on himself and that there is no appeal from it. This pre-science is an ordeal. Shall we grudge our esteem to the men who are so tried yet are calm, and go about when possible, fulfilling their daily duty with precision, and would not from their manner be reckoned among dying men. This is not a fancy sketch, but is real and happens among us. Are not these men heroes?

No layman can know with such assurance of the death sentence having been pronounced against himself, however blunt and out-spoken his medical attendant may be; the layman's shield is, *while there is life there is hope*, and closely does he hug this shield, even when his case is desperate, besides, the layman cannot know the progress his disease is making, when he is feeling easier, very much better indeed perhaps, just then the sands of his life's measure may have nearly run out and his existence be counted by hours. The medical man cannot deceive himself in this way, his knowledge, so beneficial to others is to him at such a time a source of disquietude, though he has learnt to suppress the disclosure of personal suffering, personal anxiety, while serving others. His teaching has been received in practical schools, the school of suffering humanity, and from a pupil in due course he became a teacher, and as a teacher he taught the value of a calm restful state of mind, as an aid to combating disease. He was an apt pupil, a happy teacher, and is in his own time of need a good examplifier of the doctrine; not stoicism, which is a dull dead thing, but, that patience of spirit, that enables one to rise above the trials, sufferings and anxieties of life. Most people however, are blind to the object-lessons which the lives of many medical men set forth. We cannot help respecting such men, who can rise above the knowledge of personal danger and live quiet useful lives while they may. They are princes among men.

Dr. Richet displayed a remarkable power of will in his last moments of life; a state of soul that enabled him to forget as it were, that the analysis of all the death symptoms up to the last minute which he recorded was of his own case, and what is more remarkable, all the symptoms were noted with the exact precision of science notwithstanding his dying agony; his is an extreme case, few possess such courage, such self-forgetfulness, for it was not enacted under the false personation of delirium, he had full possession of his senses to the last.

BOSTON MED. LIBRARY APR 13 1893 ASS'N

Axenfeld, the great diagnostician, had sometimes a very cool and easy way of showing the peculiar powers he possessed, though, his method of doing so, was not appreciated by his friends, who, from their knowledge of his great abilities accepted his forecastes of the end of their lives with the assurance of fatality although startled by the declaration. One day at a dinner at his own house, he surprised his friends by prophesying the manner of his own death. *I know I shall die from my brain*, and then Axenfeld began in an unconcerned way and with peculiar courage to particularize in clear scientific language the way he would die. His friends would have been content to change the theme of the discourse, having had enough of such gruesome talk, but Axenfeld had started on a favourite subject with him, and as he thought an unfolding of a truth, that science held the valuable knowledge which physicians could acquire, of prescient diagnosis, to coin a phrase. At the present time Axenfeld would be considered a crank on this subject. Continuing this unpalatable theme Axenfeld turned to a friend who sat at his right hand, he looked him keenly over and said "you will die thus and thus" and gave a detailed account of his future sufferings and death, which was we may be sure not very agreeable to the friend treated thus presciently, but he soon had others to share his experience, for Axenfeld went the round of his guests presciently, pointing out the manner each would die. Of one friend he was carefully minute and exact in the particulars he gave of his death, but said that it was still distant; we are told that time proved it true of him, of the others, and Axenfeld's statements of his own end. (We are not romancing, but are stating what is said in sober sensible literature of the remarkable abilities of this great medical man). The narrative tells us, that the guests were sobered by the peculiar display of such unappreciable knowledge and one can sympathize with them, for we should think, that most people would have felt inclined to have run away from that social gathering, before the future ending of the lives of half the guests had been unfolded. Wherein was Axenfeld a hero? In his calm continu-

ance of the ordinary routine of his life though he believed firmly that the ending of it would be so painful. It requires excellent courage to do this.

Rabelais displayed throughout his life an antipathy to all things serious, there was nothing solemn or reverend in his eyes, everything was sport for his wit, he was jesting continually and he laughed while others sighed or wept. Rabelais had no contempt for life, or scorn for the fear of death as the basis of his peculiar temperament, but he seemed incapable of deep feeling; his way of living was accepting life as a play, but a play exciting the spirit of ridicule in witnesses and participators, a farcical comedy. It was this habit of seeing a ridiculous side in all the events of life that made him laugh at everything, and this habit became so strong in time as to have a ruling power over him, and he jested on his death-bed. "Ring down the curtain, the farce is finished" were his last words. Rabelais life and manner of death could not be called heroic and we have inserted this brief notice of him to show the difference between those who die without any fear of death truly, but yet, without a sense of the important issues connected with the event, and those who having always looked on the problem of life as worthy of serious attention, die without any fear of death, die as they have lived calmly, resignedly, as having reached this last stage of life not unexpectedly. The parting of soul and body is to them a solemn matter, for have they not thought often and deeply about the real meaning of this disjunction, and they know for all their mental labour (outside of revelation), that their knowledge of the subject is infantile. Is the soul and body to be reunited at some future period, when the soul's temple will have no weakness, no corruption, no mortality? In other words concisely, is there a resurrection of the dead? These are questions worthy of thoughtful attention, worthy of research and precessional investigation, and of a manly acceptance or rejection after careful examination of evidence. They cannot laugh at death though they do not fear his power, nor can they jest with the dying. The story of Rabelais' life is a good foil to the story of the lives of others whose life and death displayed heroism.

The manner of Haller's life was very simple and his dying hour showed that he possessed a simple, but strong spirit, which enabled him to conquer the depressing and even paralyzing influences which form the environment of a death-bed. It is said that Haller at the supreme moment of final agony so far overcame physical pain and weakness as to be able to feel his own pulse as quietly and steadily as he used to feel the pulse of his patients. "The artery beats, the artery beats still, the artery beats no more," and died without a sigh. Haller's, the great and magnificent Haller's soul went forth to God at the calm sunset of life, like the evening of a beautiful day.

Marked traits in the character of the French Physician Chiracs, was his simple devotion to duty, and being truthful in his dealings with his patients or their relatives, never permitting himself to indulge in the least form of equivocation, this latter is a difficult task, that Chiracs did it wisely is evident from his having been so popular. When dying and in the delirium of his last moments, he seized his left wrist with his right hand and feeling his pulse exclaimed; "they have called me too late to this case, "this man is dying," and closed his eyes in death.

Dr. Baillargers was known in life as a self-controlled, courageous man, and when the time came for him to face death and submit to his power, neither his courage nor his intelligence failed him, he preserved both to the last hour of his life; when the last moments of life were passing quickly, he suddenly experienced a peculiar symptom, and a keen pathologist to the last, he asked a friend in attendance to read to him an article in Deschamps' Dictionary, and listened attentively to the definition of the symptom given therein, the reading finished, he quietly turned on his side and murmured "that settles it," and the soul of Baillargers passed the bounds of mortality.

After all, everyone of us should be better prepared to meet death, by the education we receive in being witnesses or having the knowledge at second-hand of death being a daily occurrence in every large community of man. Why is there such extreme nervousness shown by most of us about the matter? even to the extent of avoiding all allusion to death and the dying hour. Ere this, civilised communities, especially Christian Communities, should have been educated up to the point of losing all fear of death, many who have been so educated have found that it is not a hard thing to die. It was John Hunter who said, "had I the strength to hold a pen, I would tell you what a pleasant and easy thing it is to die." There is no reason why this should not be the experience of all, apart from delirium. Dr. Berthollet said, "I feel death approach and I feel happy."

The last days of the great physician Trousseau were indeed heroic, few, at such a time and with a common experience, have shown a courage so simple, coupled with such benign calmness. "I have a cancer; yes I have. Now take charge of it for me and I shall thank you as long as I live," was what Trouseau said to a brother physician, and he continued his daily life in its usual routine as if there was nothing the matter. He gave his consultations, held his evening receptions, had his music in the afternoons just as usual, in fact, his manner was so calm that no one guessed for some time that he was suffering from a dangerous malady. He grew weaker day by day, and at last, could no longer walk out to visit any of his patients as was his frequent habit; a little later he had to give up the use of his carriage and all out of doors work, but continued to give his consultations. His courage was splendid, his will firm, but the change in his appearance now was so marked, that everyone noticed it and soon it was known generally that he was suffering from Cancer. "Can it be that you are going to die"? "Is it true doctor"? "what will become of our children"? were the questions put to him by the anxious mothers of families. Trousseau only smiled at this display of selfish grief and quietly went on with his work.

The time came at last when even the iron-willed Trousseau had to give in and take to his bed, for he could no longer sit

up, yet he gave in only partly, as he received his friends as usual, and acted as though he was suffering from some slight illness. When the time of terrible agony consequent of his disease came, he was compelled to ask for injections of morphine, in small quantities, only sufficient to enable him to bear his sufferings, and then he would turn smilingly to his friends and say, "Now let us have a little intellectual gymnastics; let us discuss some new medical topic."

When the final moment came, "come near me, dearest; take my hand," he said to his daughter, then sighing deeply added, "as long as I press your hand I am living; after that I shall be no more, or I shall be." So ended the life of the great Trousseau, his intellect was quite clear, and the firmness of his spirit remained to the last.

Medical News Letters.

LONDON LETTER.

[From our Special Correspondent.]

Vivisection.

A discussion was begun in October last, at the Congress of the Church of England upon the attitude which the Church should take with regard to vivisection.

Bishop Barry, and Canon Wilberforce strongly opposed the practice, and stigmatized the doctors who make experiments on animals, as "inhuman devils." Professor Horsley defended himself and the profession at large. He mentioned, that the charges of cruelty against vivisectors were based upon a book written by Miss Cobbe entitled the "nine circles" in which the cases are inaccurately reported, and the fact, that chloroform had been given during the experiment, was suppressed.

Since this meeting, a correspondence has been going on in the *Times* and other daily papers, in which a great number of prominent members of the medical profession have taken part. Mr. Lawson Tait has written several letters in favour of the anti-vivisectors, but in these he suppresses the fact, that he himself conducted a series of experiments on living animals some years ago. However, it is evident, that the attitude of the public is not nearly so adverse to vivisection, when controlled by the laws, as it was some ten years ago.

New Medical Papers.

Two new medical papers have made their appearance in London; one is called the *Medical Week* and is the London edition of *La Semaine Medicale*. It is printed in Paris, but is not a mere translation of the French paper, and contains original articles by English writers. The Reports of the Transactions of the British and Foreign Medical Societies are very good.

The other paper is entitled the *Clinical Journal*, and is devoted to reports of clinical lectures and demonstrations by teachers at the various London and Provincial Hospitals. It appears to be rather suited for students preparing for examination, than for medical practitioners.

Royal College of Surgeons.

A new departure has just taken place by the establishment of a "Common Room" for Fellows and Members in the College building. The room is open from 10 till 5 daily, conversation is permitted; and the various daily papers, and writing materials are provided. There is a good assortment of comfortable chairs. The last calender of the College shows, that the number of Fellows is gradually decreasing. In the year 1879, the number was 1,233, but at the present time it has fallen to 1,110. This decrease appears to be accounted for by the Council having ceased to elect to the Fellowship, members of 20 years standing without any examination.

St. Mary's Hospital, London.

H. R. H, the Prince of Wales laid the foundation stone of the new wing of St. Mary's Hospital on December 17th. This hospital, which was started in 1849, now contains 248 beds; the wing will provide accomodation for nurses and students. The new building is to be called the Clarence Memorial Wing in memory of H. R. H. the late Duke of Clarence.

Death of Sir Richard Owen.

By the death of this great biologist, natural science has lost one of her ablest champions. He died at the ripe age of 89, from a complication of diphtheria. He was buried at his own desire at Ham near Richmond, although it is understood a last resting place was offered in Westminster Abbey. Although a fully qualified medical man, he never practiced his profession, but as a young man he had a great desire to join the Naval Medical Service; the lack of a vacancy at that time alone prevented him from carrying out this plan. Instead of this he went to Paris, where he met Cuvier, who persuaded him to take up biology. At this subject he has done more work than any other man, attached first to St. Bartholomew's Hospital, he was appointed assistant to Mr. Clift, then Curator of the Hunterian Museum of the College of Surgeons. This Mr. Clift was the late secretary of the great John Hunter. Sir Richard married Clift's daughter, and succeeded to the Curatorship of the Museum. This post he held till he was appointed Curator of the Natural History Museum at South Kensington. He resigned the latter post some nine years ago.

Colectomy.

At the London Hospital, Mr. Treeves lately performed Colectomy for Cylindroma of the Sigmoid Flexure. The tumour had been felt by abdominal palpation.

A median incision being made, some ascitic fluid escaped; the diseased bowel was then drawn out of the wound, and the healthy gut on each side of the growth was clamped between the thumbs and fingers of assistants. A v shaped piece of bowel and mesentery was then cut away. The mesentery, was sutured, and the cut ends of the bowel brought together, end to end, with Lembert's sutures.

A week later the patient was doing well, and the bowels had acted naturally seventeen times.

Pathological Society.

Dr. Penrose showed a sarcoma of kidney weighing 6 pounds, a piece of which has been passed by the patient per urethram,

when admitted to the hospital, he brought a worm-like body with him, which on examination proved to be sarcomatous.

In the bladder there was a mass of sarcoma free, and attached to the orifice of the urethra was another growth. This latter was considered as an inplantation growth. The sarcomatous growth was also spreading down the ureter.

Mr. Bidwell mentioned that in a case in which he had performed nephrectomy for carcinoma of kidney, the growth extended down the ureter without contracting any adhesions.

Mr. Lane showed a specimen of papilloma of the penis, which had apparently commenced in the floor of the urethra, and had extended round the whole penis, infiltrating the tissues, but in no place assuming an epithiliomatous nature. It was suggested that the growth was a papilloma whose base was taking on sarcomatous action.

Clinical Society.

Mr. Sutton described a case of wandering spleen, which he had removed from a female *æt:* 22, on account of pain. The spleen weighed 16 ounces, and had a long twisted pedicle. It was quite impossible to keep the organ in its place with a pad, and belt. It had been found, at different examinations, in the following places, right iliac fossa, left iliac fossa, in the pelvis pressing on the uterus. The operation was simple, the pedicle was ligatured, and the organ removed. The patient made a good recovery.

Current Medical Literature.

OPERATIVE TREATMENT OF PES TALUS PARALUTICUS.

Eugène Rochard (*Rev. de Orthop.*) employs two methods: The shortening of the tendo-Achillis by excision of a portion of the same or by an oblique incision and attaching both portions to each other, followed by the transplantation of tendons by the blending of the peronei muscles with the insertion of the tendo-Achillis. The shortening, of this tendon by Walsham's and Willet's method was almost completely successful in seven cases; in no case was there a complete failure. However, the period of observation was not long enough in these cases. Gibney by oblique separation reached quite excellent results in seven cases—in eight cases, satisfactory results,—and in but three cases was he unsuccessful. Kirmisson also obtained a good result in a similar case. The author modifies the latter process by adding a lateral freshening to the simple lapping over each other of the separated parts of the tendon, thus increased chances of union with shortening being offered. Which of these methods is to be preferred is to be determined by a careful examination of the individual muscles. If the gastrocnemius, plantaris and soleus are only atrophied and not completely paralyzed, the anomaly being exclusively caused by an exceedingly strong tension of the tendo-Achillis, simple shortening is to be recommended. But if the muscles are completely paralyzed—which, however, occurs but rarely, it almost without exception following infantile paralysis—the transplantation of tendons is to be employed in order to connect the peronei. Arthrodesis is to be employed only in clear cases of dangle foot. The good results of the operation are, of course, lessened by secondary changes in the plantar arch by retraction of the plantar fascia, etc.; *a priori*, however, the idea (Fayette Judson) that a weakened muscle must not be allowed to act as it may be injured thereby, is to be abandoned.—*Medical and Surgical Reporter.*

RECTAL INJECTIONS.

The value of flushing the colon with properly sterilized water—hot, tepid, or cold—according to the special indications present, will be readily admitted in a long list of formidable diseases, some of which may be mentioned, as follows: Habitual constipation, with or without mental depression or active cerebral manifestations due to auto-infection, being so common, might be permitted to head the list; all occult nervous affections, associated or not with the uric acid diathesis, would naturally attract our notice, as it is well known that disordered innervation is generally conducive to the absorption of poisonous products from the alimentary tract. Enemata are also serviceable in disease dependent upon pelvic congestions, such as uterine displacements, ovarian pains, and hemorrhoids, for they contribute materially, though indirectly, to relieve the original cause, *vis.*, hepatic insufficiency. In appendicitis, perityphlitis, and abscess, for which the *amœba coli communis* is now held responsible, they are invaluable.

Mild, and even severe cases of dysentery and diarrhœa are often brought to a favorable termination without enemata, but it is safe to say that, with appropriate diet, all cases would be decidedly benefitted and many fatalities avoided by the adoption of this simple means. Enemata should find a place in the treatment of other disorders of this character, notably in the collapse of cholera morbus, yellow fever, and cholera, as well as in the conduct of cases of pleurisy or typhoid fever.—*The Therapist.*

McBURNEY AND APPENDICITIS.

Dr. McBurney, in reporting a number of cases of appendicitis to the New York Academy of Medicine, again calls attention to the comparative frequency of trouble. Its assumed rarity in former years is explained by the fact that the disease was not understood. Foreign bodies, fæces and other sources of irritation easily set up inflammation. A moderate rise of temperature (99-101°) occurs with a feeling of nausea, followed by vomiting. There is abdominal pain, often diagnosed as mere colic, and tenderness of the more or less rigid abdominal muscles. The point of greatest tenderness is found over a spot about two inches from the superior anterior iliac spine, on a linè extending from this point to the umbilicus. (Our readers will know that this is briefly referred to as the McBurney point.) On deep plapation a tumor may often be felt marking the seat of impactive swelling and inflamation. Suppuration ordinarily takes place, although under hot application, opium, etc., the attack may be soothed down. The abscess is sur-

rounded by a more or less developed pyogenic wall. Exacerbations may come and go, but, with perforation death is sure to come. Primary operative interference is always indicated; delay means inviting uncontrollable danger. The most urgent cases are those of acute suppurative disease with perforation and gangrene of the appendix. The diagnostic signs pointing in this direction are: *sudden* severe pains on second day over McBurney point; rapid subsequent rise of temperature, existence of a palpable sensitive tumor. Ordinarily an incision four and one-half inches long should be made about one inch outside of the linea semi-lunaris. Examine carefully the caput coli; remove all pus; ligate the appendix and disinfect with cautery; pack with antiseptic gauze and recovery is rapid and undisturbed—*N. Y. Med. Record.*

THE DOSE OF NITRO-GYCERINE.

At a recent meeting of the Practitioners' Society in New York, Dr. George F. Peabody stated that the negative results often obtained in the use of nitro-glycerine for high arterial tension could be changed by increasing the dose. Unless some contra-indication were present, he would push the dose of the drug to the point of producing some specific effect. The ordinary dose is put down as 1/1000 of a grain, but he has often had to exceed this before any effect could be noticed. In one of his cases, patient sixty years of age, with diffuse nephritis, mitral insufficiency and general arterial sclerosis, extending over a period of four or five years, he began with the usual dose and gradually increased until his patient took two grains every two hours, or twenty-four grains per day. It was only under this latter dosage that the dyspnœa disappeared and strength increased sufficiently to enable the patient to go about. In another case, with high-tension pulse, hypertrophy of left ventricle, with occasional attacks of profuse and painful vomiting, he began with 1/1000 of a grain and increased up to one grain every three hours, day and night. During the attacks of vomiting the drug was given in the same doses hypodermically. Condition of the pulse was much improved, Vomiting had to be controlled by morphine.

Dr. Kinnicutt reported a case of general arterial sclerosis with high-tension pulse and distressing symptoms, in which the dose of nitro-glycerine had to be carried up to three grains and a half every hour during the day. These large doses improved and relieved all the bad symptoms. The drug, he thought, ought not to be abandoned because in ordinary doses it failed to produce the desired effects. The dose should be increased until desired physiological effects were obtained.—

GONORRHŒAL PUERPERAL PERITONITIS.

F. B. Robinson, *(North American Practitioner)* describes gonorrhœa as an infectious, unlimited, progressive disease of the cylindrical epithelium of the generative tract. The habitat of the gonococcus is cylindrical epithelium; it does not thrive so well in squamous epithelium or connective tissue. The walls of the urethra contain numerous glands, which are lined by cylindrical epithelium, although the urethra is lined with squamous epithelium. Sanger's assertion respecting the impossibility of gonorrhœa producing suppuration in the appendages is not supported by the experience of the majority of observers. Suppuration may depend upon mixed infection, as was pointed out by Bumm. The investigations of Wertheimer showed the gonococcus to be present in a number of cases of pyosalpinx, and in sixteen cases no other form of bacteria was present. The same observer proved that gonococci could penetrate the ovary and form an abscess there.

Gonorrhœal puerperal fever depends chiefly on the exacerbation of a chronically or recently inflamed gonorrhœal organ. Conception and gonorrhœal infection may occur at the same time, and gonorrhœal puerperal fever occur at the abortion or labor. The tendency of the gonorrhœal poison to produce sterility limits the presence of this condition chiefly to primiparæ. Although gonorrhœa usually produces a bilateral lesion and consequent sterility, pregnancy not infrequently occurs from the fact that the trouble has been confined to one side of uterus. Peritonitis may then occur at abortion or labor at term. The exciting cause of the abortion in these cases is an endometritis of specific origin. When the gonorrhœal fever occurs at labor it is frequently due to the rupture of pathogenic cysts, but it is generally the exacerbation of a previously inflamed gonorrhœal organ. Sudden death sometimes occurs at the time of abortion or labor due to the rupture of a pathogenic (gonorrhœal) cyst, caused by the mechanical pressure incident to parturition.—*University Med. Magazine.*

VARICELLA AND HERPES.

Professor Johann Bokai, superintendent of the Children's Hospital at Buda-Pest, publishes *(Lancet)* in a Hungarian medical journal several cases of varicella which had occurred in his practice under rather peculiar circumstances. The first of these cases had been observed in the year 1888, when a child was attacked by chicken-pox. Ten days afterwards another child in the same family had exhibited all the symptoms of herpes zoster. Professor Bokai saw a similar case in 1891. A woman suffered from herpes zoster, and twelve days after its appearance her child of eight years had chicken-pox. A second case occurred in the same year. He diagnosed herpes frontalis in a young man, and fifteen days after chicken-pox in his sister, a little girl of thirteen. Professor Bokai communicated his observations to Professor Koranyi and the latter very soon reported a similar observation. He had then in his ward a patient suffering from herpes of the thigh, and eight days after his admission a patient in the same ward, who had a splenic tumour, contracted chicken-pox. The suggestion is offered that an attack of chicken-pox, instead of exhibiting general eruption, may under certain circumstances have the latter so circumscribed as to form the ring peculiar to herpes zoster. Professor Bokai considers this explanation the more likely as latterly epidemics of herpes have been observed especially by Kaposi. Certain forms of this disease have been known to be highly contagious.—*St. Louis Med. and Surg. Journal.*

Medical Schools and Hospitals.

THE CALCUTTA MEDICAL SCHOOL—DISTRIBUTION OF PRIZES AND DIPLOMAS.

The distribution of prizes to the meritorious students of the Calcutta Medical School was held on the afternoon of the 12th January, 1893, at the School premises, No. 289, Upper Circular Road. The ceremony was conducted under a *shamiana*, where accommodation was provided for a very large number. The gathering which was very numerous, consisted of all the leading medical gentlemen, both European and Native, and also the Students of the School, and their friends and well-wishers. The Medical Press was represented by a representative from the Office of "The Medical Reporter," and there were also present a goodly number of European ladies. Sir Charles Elliott, the Lieutenant-Governor of Bengal, who presided on the occasion, arrived at half-past four o'clock precisely, and was received by the Executive Committee, and conducted to the seat, reserved for him.

Mr. R. D. Mehta, in proposing that His Honour should take the Chair said,—I rise to perfom a very pleasing duty, which I am sure, will meet with the unanimous and emphatic acceptance of this Meeting. As one of the life-members of this institution, and as one who from its very beginning has felt the deepest interest in its prosperity, I feel it a matter of great pleasure and privilege alike to propose, that on this auspicious occasion His Honour the Lieutenant-Governor of Bengal do take the Chair. I do not wish to trespass upon the province of other speakers, but it must be a matter of great satisfaction to us all to be able to welcome His Honour, the Chief patron of the Institution, to a neutral ground of science, and to add one more testimony to the many, which the public have already offered in grateful appreciation of His Honour's sympathy with the cause of private effort in matters educational. With these words, I beg to propose, that His Honour the Lieutenant-Governor of Bengal do take the Chair.

Dr. R. Sen seconded the proposal.

Dr. Lal Madhub Mukerji, Rai Bahadur, President of the Calcutta Medical School, in asking His Honour the Lieutenant-Governor to call upon the Secretary to read the Report, spoke as follows:—

In asking the permission of your Honour to call upon our Secretary to read the Report of our School, I cannot but preface this with some thoughts of mine which now rise within me. I greatly appreciate the privilege of presenting the Report before such an august audience as this, representing the intelligence, the wealth, and the nobility of the land, headed by your Honour, the Ruler of Bengal. It is superfluous for me to say, that myself personally and the Members of our Committee feel deeply encouraged by your Honour's generous sympathy in the cause of education, and your deep solicitude for the encouragement of private effort in the cause of education. This circumstance more than any other emboldened me to approach your Honour with the request to grace this our first prize-distribution to the meritorious students of our Institution.

The main objects which we had in our mind, when we set to work for the establishment of this school, were to supply that want of a medical institution, similar to the educational establishments, existing in the department of general education, founded and managed by private individuals and to make efforts in the direction of making medical education easily accessible to the people at large, so as to reduce to a minimum the number of untrained medical practitioners, and to establish a *hospital* in connection with the teaching department of the school, and to encourage a careful and scientific study of indigenous drugs.

It is not for us to say, how far we have succeeded in fulfilling our objects. One might ask, how can we justify our existence in the face of the already existing institutions on medicine in Bengal.

Knowing as we do the views of our benign Government, and fully appreciating their views since they were announced by the Despatch of Sir Charles Wood, about 38 years ago, that the aim and object of the Government policy in regard to higher education was, that the education department should pave the way for private enterprize, we feel, that the time has come, when the prophecy of Sir Charles Wood is being fulfilled, not by the enforced action of the Government but the ordinary work of the laws of supply and demand. I am one of those, that believe in the wisdom of the policy of our Government, and that, the further development of higher education can now be safely left with the people themselves at least so far as Calcutta is concerned.

It is to me personally, and to my Committee, a matter of thankfulness to be able to find to-day that our little bantling, whom we so fondly cherished during the last six years, has survived all adverse circumstances, and that it has lived to attain to that stage, when it is deemed worthy of encouragement from the highest personages in Bengal, from Maharajahs, Rajahs and Gentlemen of rank.

As the child of our adoption grows in years, his demands cannot but increase with the growth of time.

I can only say, that the two things that are needed for the proper fulfilment of the functions of this Medical School are, firstly, a suitable permanent accommodation for the school, and, attached to it, a hospital, with a due supply of necessary apparatus and means of carrying on instructions, and, secondly, qualified medical men to perform the duties of instructors. One part will ever be fulfilled as demand will increase. With regard to the last, we need have no doubts or misgivings. The progress of medical education in this country (thanks to the efforts of the University) has ensured in the past, and will ensure in the future, a supply of qualified men, who as teachers will hold their own against scientific men in other parts of the world.

But what about funds for a permanent habitation for our institution, the hospital and the necessary apparatus for purposes of instruction?

For this, we rely with abounding confidence upon that All-preserving Providence, who presides over all beneficient undertakings, and who will no doubt shower down His blessings upon the good work, which we have undertaken.

The Secretary then read the following, being the Annual Report of the School.

The Calcutta Medical School has just passed the fifth year of its existence. During these five years it has made such satisfactory progress as to leave no doubt in any one's mind about its permanence being established.

Introductory Lecture.

The Session opened with an introductory lecture by Dr. J. N. Mitra. The subject chosen was Education. Dr. B. Basu, presided on the occasion.

During this Session Sir Charles Elliott very kindly paid a visit to the Institution. His Honour inspected the Out-door Dispensary and all the various departments of the School and everywhere found the arrangements satisfactory. His Honour spoke words of encouragement both to the lecturers and to the students, and wished every success to the Institution. His Honour further subscribed twenty rupees in aid of the Charitable Out-door Dispensary and expressed his willingness to become one of the Patrons of the school. The mere fact of the School being patronized by such personages as Sir Charles Elliot, and Sir Steuart Bayley goes a great way to show the progress and usefulness of the Institution.

Number of pupils.

In the beginning of the Session under review there were 94 pupils on the roll, while the preceding one opened with 80 only. The new admissions were 146, which is 50 more than those of the previous year. A reference to the following table will clearly show how much progress has been made in this direction :—

	Opening No.	New admissions.	Closing No.
1887—88	0	80	66
1888—89	57	68	73
1889—90	96	80	87
1890—91	80	96	112
1891—92	94	146	160

Attendance of pupils.

The students were very regular in attending lectures, the average percentage of attendance on the part of regular students having been 85.1 per cent.

Lectures.

The Lecturers, with even fewer exceptions than in the previous year were regular, and in no one subject did the lectures actually delivered fall short of the prescribed number. It is gratifying to note, that most of those lecturers that in former years could not, from some cause or other, devote much of their time to school work, made ample amends for it by the regularity with which they went through their course of lectures during the Session. Additional lectures were delivered by Drs. M. L. Day, N. B. Basu, S. B. Basu, N. R. Sarkar, R. G. Kar and A. Basu.

Dissection.

The Dissection classes were under the Superintendence of Drs. S. C. Basu and A. Basu. They were opened in November and closed in February. There was a pretty good supply of dead bodies from the Mayo Hospital. *Post-mortem* bodies were also received from the Medical College Hospital through the kind permission of Dr. E. A. Birch. For this favour the School Committee beg to acknowledge their heart-felt thanks to that Gentleman. Most of the students dissected the prescribed number of parts.

Clinical Instruction.

As in previous years the students received clinical instruction at the Mayo and Chandney Hospitals, the Sukea Street Dispensary and the Out-door Dispensary of the School. Twenty students at a time, (which was eight more than the number previously allowed) were permitted to attend the Mayo Hospital. The School Committee beg to acknowledge their manifold obligations to Dr. R. C. Sanders, to whose kind help the present improved condition of the school is chiefly owing, and they hope, that this help will not be discontinued. The School Committee also beg to renew the assurances of their sincere obligations to Drs. J. W. Jones, Suresh Prasad Sarbadhikary and Manmatha Nath Chatterjea, of the Mayo Hospital, to Drs. J. E. Panioty and Radhagobinda Chaudhury of the Chandney Hospital, and to Dr. Kherode Kumar Datta of the Sukea Street Dispensary, for the kind interest with which they have always taught the students.

Out-door Dispensary.

The Out-door Dispensary has done its good work as in previous years. The total number of patients who attended there during the session under review, was 6169 against 6570 in the previous year. The average daily attendance was 58 while in Session 1890—91 it was 61.

Materia Medica Museum.

The Materia Medica Museum has been all but completed during this Session. The School Committee have great pleasure in acknowledging their sincere obligations to Messrs. Bathgate and Co. and Messrs. S. C. Datta and Co. of the Peacock Chemical works for their kindly, presenting to the School large collections of drugs for the Materia Medica Museum. Those from Messrs. Bathgate and Co. were simply splendid, and the collection would be an important addition to any Museum.

Plates, Diagrams &c.

A good number of plates and diagrams for illustrating lectures have been prepared and a large sized Manikin Atlas was bought for demonstrating Anatomy to students.

Pathological Museum.

No improvement could be made in the Pathological Museum for want of a Hospital.

Library.

Some additions have been made to the Library, some books being presented by their Authors, and a few others by Dr. O. C. Raye.

License Examinations.

The results of the Final Examination were highly satisfactory, seven students having passed out of nine. Of these, two were placed in the first, and the rest in the second division. But the Committee note with extreme regret, that the results of the First License Examination were simply miserable, only one student having passed out of eleven. Drs. L. M. Mukerjea, P. D. Basu, S. Mukerjea, J. N. Mitra, M. L. Day, N. B. Basu, N. R. Sarkar, M. N. Chatterjea and A. Basu, conducted the examinations.

Prizes, scholarships &c.

Kabiraj Gupimohan Sen of Calcutta, has been kind enough to award for this session a silver medal to the best student in Hygiene. The heartfelt thanks of the Committee are due to him for this act of kindness and it is hoped, that he will kindly continue his help for future years. The School Committee, in order to perpetuate the Memory of the late Maharaj Kumar Nilkrishna Bahadur, have sanctioned the continuance, at their own cost, of the silver medal awarded by the late Maharaj Kumar during his lifetime. Dr. Lalmadhab Mukherjea has been pleased to award annually a silver medal in Ophthalmic Medicine.

Three free Studentships, each tenable for one year, were created by the School Committee to be given away by the trustees to three of the poorer regular students of the first year class. Two permanent freeships, each tenable for one year and one of which is for the second and the other for the third year class, were created at their own expense by Drs. M. L. Day and Amulay Charan Basu respectively, in honor of the late Pandit Isvara Chandra Vidyasagara. The Committee beg to thank these gentlemen for their kind help to poor students. The other freeships and scholarships continue as before.

Discipline.

The discipline has been very good all through.

Finances.

The Finances were in a very satisfactory condition notwithstanding, that large sums had to be spent upon diagrams and as carriage allowances to lecturers. Nevertheless, there are so many things yet to be done, which require the outlay of large sums of money that the Committee feel sure, they cannot get on without the help and patronage of the public.

Hospital.

It is impossible for a Medical School to make any progress worth the name, without a hospital for giving practical instruction to the students. Although the Mayo and Chandney Hospitals are open to the students of the Calcutta Medical School, yet these institutions are a long way off from the school and it is extremely inconvenient, sometimes impossible, for the students to attend the lectures after the hospital. It has therefore been proposed to establish a hospital in connection with the school and name it after the late Pandit Isvar, Chandra Vidyasagara. Some benevolent gentlemen have been kind enough to promise their help towards the furtherance of this object. The Committee hope, that the public at large will follow the example of these gentlemen and come forward with their help.

Death of Maharaj Kumar Nilkrishna Bahadur.

The Committee record with the deepest sorrow the untimely death of the late Maharaj Kumar Nilkrishna Bahadur, who has been one of the fastest friends of the Institution at a time when it needed a friend very much. He was, in fact, the life and soul of the Institution. He and his equally noble brother Maharaj Kumar Binayakrishna Bahadur, had started the Out-door Dispensary of the School. The loss that the school has sustained by his death is simply irreparable. This event, so sad in itself, is doubly lamentable to the Committee, as it took place so soon after the death of the late Babu Mahesh Chandra Chaudhury, who had always helped the Institution with sound advice. A portrait in oil of the late Maharaj Kumar, kindly presented by his brother Maharaj Kumar Binayakrishna Bahadur, has been hung up in the central lecture hall

The Committee beg to record their deep obligations to Babu Narendra Nath Sen, who has been materially helping the cause of the Institution. He has always been a firm friend of the school and has thoroughly identified himself with its interests. It is hoped, that our new Trustees, Pandit Prannath Sarasvati and Maharaj Kumar Binayakrishna Bahadur, will follow the example of Babu Narendra Nath Sen.

In conclusion, the Committee acknowledge their gratitude to the Auditors, the President and the Secretaries for the very kind interest with which they have managed the affairs of the school.

His Honor then distributed the Diplomas and Prizes to the successful students, the list being—

PRIZES AND DIPLOMAS.

Ashutosh Mukherjea.—1. Nilkrishna Medal for General Proficiency. 2. Dr. J. N. Mitra's Medal in Surgery. 3. Dr. Dinanath Basu's Medal in Anatomy. 4. General Proficiency Medal. 5. Dr. S. Mukherjea's Prize in Midwifery. 6. Dr. Amulya Charan Basu's Prize in Anatomy. 7. Diploma.

Bankim Behari Chatterjea.—1. Dr. Dinanath Basu's Medal in Medicine. 2. Dr. R. G. Kar's Prize in Medicine. 3. Dr. Lal Madhab Mukherjea's Prize in Ophthalmic Medicine. 4. Dr. S. Mukherjea's Prize in Midwifery. 5. Diploma.

Ferasutullah.—1. Kabiraj Gupimohan Raya's Medal in Hygiene. 2. Dr. R. C. Sanders' Medal in Anatomy. 3. Diploma.

Rajendra Deb Das.—Diploma.

Rakhal Chandra Sarkar.—Diploma.

Rasiklal Karmakar.—Diploma.

Hari Nath Das.—Diploma.

Sasi Bhusan Mukherjea.—Diploma.

Jogendra Chandra Raya.—1. Dr. R. C. Sanders' Medal in Anatomy. 2. Dr. Dinanath Basu's Medal in Anatomy.

Nibaran Chandra Datta.—Dr. Dinanath Basu's Medal in Anatomy.

The following is the text of the Diploma, kindly placed at our disposal by the Secretary of the Institution.—

CALCUTTA MEDICAL SCHOOL.

This is to certify that.....of.....after having attended for three years the regular course of lectures and hospital duties as prescribed by the Committee of the Calcutta Medical School, passed the final examination in 18..., and to the best of our belief, we think him competent to practice medicine and surgery.

Appended to the Diplomas are the following signatures as examiners.

Nilratan Sircar M.A., M.D., Amulya Chunder Bose M.B., P. D. Bose M.B., Surat Chunder Bose, M.A., M.B., J. N. Mittra M.R.C.P. (Lond), Lalmadhab Mukerjee L.M.S., S. Mukerjee M.D., Manmath Nath Chatterjee, M.D., M. Day, M.B., C.M.; R. G. Kar, L.R.C.P. &c.

His Honor then addressed the Meeting.

He said, that it was a great pleasure to him to be present on the occasion, and he was very grateful to the President of the Committee, who had given him an opportunity of meeting a large number of gentlemen who were interested in this most useful and valuable Institution. The Report which had just been read gave a very fair and a very honest and straightforward account of the progress which this Institution, had made during the past year. The number of students had gone on steadily increasing, and the number which passed the final examination was very satisfactory. The admission in the report of the want of success in the first license examination was extremely creditable to the Committee, and to those who are interested in the Institution, because people were disposed to be lenient in these matters, and, if there was failure, to gloss it over, but in this instance the failure had been frankly acknowledged. It was also satisfactory to find, that the awards of success were not given lightly or leniently to those who passed the final exmination, and this would do good in the end to the Institution, because it would show, that the awards are the diplomas, which had been given were given as a genuine test of merit and skill. The points which the Persident of the Committee referred to in his opening address, and which struck him (the speaker) most were, first, the future influence, which the young men who had passed would carry throughout the whole of Bengal, and second, the importance of the study of the Indigenous drugs of the country. It was extremely undesirable, that they should go and depend for ever upon drugs imported from England and from all parts of Europe at very considerable expense, when they had so many fruitful vegetables among them. They had done a great deal already in cheapening that valuable drug quinine, and it was now sold for about a tenth of the price, that it was sold for some fifteen years ago. This was due to the skill and talent which had been imported into the cinchona cultivation at Darjeeling under the Superintendence of Dr. King. But why should they depend upon Dr. King, when. there was so much skill and ability in the country? It was generally believed in Europe, that the home of cholera was in Eastern Bengal, but why should the home of cholera be in Eastern Bengal? Even if it was so, why should not some of the medical men of the country make some discovery, which would enable them to successfully cope with this terrible disease, and even eradicate it from its home. They were all of them very much interested in the spread of medical help for the females of this country, and he trusted, that the Committee of the School would not forget to take up the cause of female patients as earnestly as they did that of the male patients. He hoped also, that the prejudice which now existed among the people of this country to send their wives and daughters for medical treatment would soon be overcome. In conclusion, His Honor said, that he heartily wished every success to the working of the Institution, and he was pleased to be able to distribute the prizes to the successful students. He hoped, that Providence would watch over all their charitable efforts, and bring prosperity and comfort to those who were trying their best to bring peace and happiness to the homes of others.

Baboo Norendro Nath Sen then proposed a vote of thanks to the Chairman. This was seconded by Dr. J. M. Mittra, and carried by acclamation.

The gathering then dispersed.

ALICE MEMORIAL HOSPITAL, HONGKONG.

A Meeting of the Finance Committee in connection with this Institution was held a short while ago, for the proceedings of which we are indebted to the courtesy of Dr. J. C. Thomson of Hongkong.—Hon. J. H. Stewart-Lockhart presided, and there were also present—Rev. Dr. Chalmers, Dr. J. C. Thomson, Mr. Hugh McCallum, Mr. E. Osborne, Mr. W. H. Wickham, and Dr. Cantlie.

Apologies were intimated from Dr. Bell and Mr. McLeavy Brown.

Dr. Chalmers having read the Minutes, the Chairman called upon Dr. Thomson to make a statement. That Gentleman recounted the steps which were being taken for providing larger accomodation at the Hospital, and read a letter from Mr. H. W. Davis, the founder of the Nethersole Fund, of which letter the following is an extract:—

'I quite concur, that the Saiyingpoon Dispensary Fund may now well be absorbed in your larger scheme, and I shall besides be very glad to add to that fund, the sum of $3,000 which you require to erect the new proposed hospital on the Beauregard site, to be called the Nethersole Hospital. I would not, however, propose that the Nethersole trust fund should be treated as a supplementary endowment of the two affiliated hospitals, but that, with the assent of myself and the trustees, it be used in connection with the additional $3,000 in paying for the new building, to be given to the London Missionary Society, as their own property for medical and evangelistic work. I think this may clearly be done under the third, tenth and eleventh clauses of the trust deed, and would very much simplify the position, the only stipulation I require, being that the London Missionary Society would efficiently supply medical missionary service. That sufficient funds will be obtained elsewhere for the up-keep I feel well assured.

[The sum to be handed over from the Trust will be $7,000, which with Mr. Davis' additional sum of $3,000 makes up $10,000, the estimated cost of the new buildings]

The Chairman proposed the following Resolutions:—

'The Finance Committee of the Alice Memorial Hospital having heard of Mr. Davis' generous offer, have great pleasure in expressing their satisfaction at the unexpected solution of the difficulty as to space, which has been confronting them for some time past.'

'The Finance Committee hereby resolve to support the work carried on in the new building to be erected, and to be styled the Nethersole Hospital, out of the fund to be henceforth common to both hospitals is carried on the same lines as at present in the Alice Memorial Hospital.'

After some questions, Mr. M'Callum seconded.

Dr. Cantlie, who came in at a late stage of the proceedings and did not hear Dr. Thomson's explanatory statement, moved for delay, and after some discussion, the meeting was adjourned for a fortnight, to allow the public to consider the scheme.

THE PROPOSED EXTENSION SCHEME.

The published reports of last Thursday's Meeting of the Finance Committee of the Alice Memorial Hospital do not convey to the public so clearly as might be wished the present position of the proposed scheme for the extension of the Alice Memorial Hospital, and some details from Dr. Thomson's explanatory speech at Thursday's Meeting, with a few additional facts, will doubtless be found useful by those interested in the good work of the Hospital.

Immediately after the Hospital was opened in Hollywood Road in February, 1887, the arrangements made for out-patient accommodation were found to be inadequate, and with the growth of the work this inadequacy has become more and more apparent. For cases requiring isolation, there has been no provision, neither has there been office accommodation, while the operation room has had to be used as the students' general room, laboratory, museum, lecture room, and for a number of other purposes, which have rendered it less suitable for its original purpose as an operation room. The staff struggled on with this insufficient accomodation for several years and the necessity for some improvement was first brought before the Annual Meeting of the Finance Committee in March, 1891. At that time, the Committee agreed, that some step must be taken to provide the necessary accommodation. As the Hospital is so completely shut in by the surrounding houses, no extension in area was possible in that direction, and the first proposal was to add a storey to the present building. Subsequently, it was found, that the foundations and walls would not carry another storey, and the idea was abandoned. This led to a proposal for the removal of the Hospital to a new site, and at a meeting on July 30, 1891, it was resolved to communicate with the London Missionary Society with a view to obtaining a site on their property at Bonham Road; to sell the present site, with the consent of the Society; to raise funds for the erection of the new building; and to obtain from some other source whatever additional sum was required. It was intimated at the Annual meeting in March last, that a site had been granted by the Society on its property at Beauregard, but in the interval it had been found, that a smaller sum than was at first expected would be realised on the old site, and that, in consequence, a considerable sum of money would require to be found in some other way. At the same time, a strong feeling was expressed by some Members of the Finance Committee and of the medical staff, that it would be unwise to remove the out-patient work from its present central situation. This opinion was especially strong on the part of Hon. Dr. Ho Kai and Hon. E. R. Belilios, the principal benefactors of the Hospital. Considerable weight consequently attached to the objections, and at this meeting a secondary scheme was promulgated—that the present building should remain intact; that two of the wards should be transformed into a large out-patient department, with the addition of several smaller rooms for the students' purposes, which at the present time block up the operation room; and that, a supplementary hospital should be built on the new site, to be used chiefly as an in-patient department for the more serious male cases and also to accommodate the whole of the female in-patient department. This scheme was practically adopted by that meeting, and there was some discussion as to the ways and means for building the proposed supplementary hospital, of which a sketch plan was shown. The cost was estimated at $10,000. Among other proposals, it was mentioned at the meeting, that the London Missionary Society has the management of a Dispensary at Saiyingpoon, known as the Nethersole Dispensary, which is supported by the income of $7,000 put in trust in 1888, by Mr. H. W. Davis, under the name of the Nethersole Trust, and that, this Dispensary would be less necessary if an hospital existed in Bonham Road. It was therefore suggested, that Mr. Davis might be willing to allow that money to be settled on the new hospital, and then perhaps part of the present permanent fund of the Alice Memorial Hospital might be taken to assist in the erection of the new building. The meeting was adjourned to allow Mr. Davis to be communicated with. At Thursday's meeting, as already briefly reported, a letter was read from Mr. Davis generously granting more than was asked. He has sanctioned the application of the whole of the Nethersole Trust to the erection of the new hospital, and has added $3000 to complete the $10,000 required.

At this point, it may be advisable to refer to the conditions under which the Alice Memorial Hospital was founded. It appears from the Constitution, that Dr. Ho Kai undertook to build the hospital provided, 'That the whole property—site, hospital building, and chapel building—shall be under the sole control of the London Missionary Society.' Mr. Belilios, who gifted $5,000 to the Institution, made another important stipulation to the following effect—'That in dispensing medicines, in the admittance to and in the conduct of the hospital, no preference is shown to Christians over other creeds—*First come first served* being the motto for all times. Mr. Davis emulates these liberal provisions, and in his letter making

the gift, stipulates that the new hospital shall be called the Nethersole Hospital, putting it into the hands of the London Missionary Society in practically the same sense as Dr. Ho Kai did with the Alice Memorial Hospital in 1887. The Hon. J. H. Stewart-Lockhart, who presided over Thursday's Meeting, made a becoming reference to Mr. Davis's munificent gift, which presented a solution of the difficulty, which the Committee had not quite anticipated and in expressing the thanks of the meeting to Mr. Davis for his generosity he was giving expression to what must be the prevailing feeling throughout the Colony when the effect of his offer on the extension of the beneficent work of a useful Institution is fully understood.

When the proposed changes are carried out, there will remain in the old building three wards—the male eye-ward, a male medical-ward, and a male surgical-ward, with a large out-patient department, which will meet all the requirements of even a much larger work than is at present done in the out-patient room. Accomodation will be provided for laboratory and museum purposes, and for the general purposes of the students outside the operation room, which will thus be left free to be devoted to its proper purpose. The present out-patient department in the basement floor will be utilized for stores and coolie quarters, which at the present time are very limited in the Alice Memorial Hospital. In the new hospital on the level of Bonham Road, there will be a basement floor with a small out-patient department, dispensary, consulting rooms, minor surgical room, one or two students rooms, and several store rooms. On the ground floor there will be an operation room laboratory, male surgical-ward, male medical-ward, female-ward, small obstetric-ward, isolation-ward, and other necessary accommodation. The obstetric and isolation wards are entirely new features in the equipment of the hospital, and another notable addition will be the erection of a small laundry, apart from the main building, where soiled dressings, &c., will be washed. Just now, this has to be done in the court-yard of the Alice Memorial Hospital, and it is satisfactory to note, that this objection to the present building which was referred to in the last report of the Medical Superintendent, Dr. Thomson, will be practically removed.

The two hospitals will be essentially one Institution, and while as a matter of convenience and for economy of female service the whole female in-patient department will be removed to the new building, male patients will be divided between the wards of the new and better-situated hospital and the wards that will be retained in the old hospital according as the importance of their cases may seem to demand. On the financial aspect, the Hon. Stewart-Lockhart's resolution proposed at Thursday's meeting makes the hospitals one Institution and the proposed inter-change of patients shows, that the work of the two hospitals will be indivisible. The more serious cases will be sent at once to the higher hospital, and as they get better the patients may be transferred from the higher to the lower hospital in order to make room for other patients; while the Nethersole Hospital may be used when necessary as a convalescent home for patients, who fail to make satisfactory progress in the Alice Memorial Hospital. The services of the same large medical staff will be available; indeed, the whole of the medical staff give their hearty support to the scheme for extension.

From the foregoing statement the important bearing of Mr Davis's offer upon the increased efficiency of the Institution and the development of its operations will readily be recognised, and at the adjourned meeting of the Finance Committee it is to be hoped no further delay will occur to retard the commencement of the work of extension.

It is very satisfactory to see, that the Finance Committee of the Alice Memorial Hospital have through the generosity of Mr H. W. Davis, found a solution to the difficulty as to space, which has been occupying their attention for some time. It is also gratifying to know, that the very existence of this difficulty proves conclusively, that the Institution has been successfully carrying on the beneficent work for which it was established, and that by Mr Davis' philanthropic offer, it will be able to increase its usefulness. It would have been seen from the sketch of the history of the hospital which was published, that it has been from the first considerably handicapped by inadequate accommodation. This disadvantage, unfortunately owing to the situation of the Insititution, could not be removed by the extension of the building, shut in as it is by the surrounding houses. Last year the demand for more room became so imperative, that the Finance Committee had to take the matter into serious consideration and endeavour to find some way of solving the difficulty. Extension of the area being out of the question, and the walls of the building being unequal to carrying another storey, the removal of the hospital to another site seemed the only possible course. But when the question of ways and means came to be discussed it was found, that it would make too great a demand on the resources of the Institution. Apart from this, there was a strong objection to giving up the advantage, which the hospital, has especially as regards its out-patient work, from its central position. In these circumstances, the erection of a supplementary hospital on the Beauregard site was the only alternative left, and it was agreed by the Committee, that they must avail themselves of it. The next question was, how the cost (estimated at $10,000) was to be met. The Committee suggested to Mr. Davis, the founder of the Nethersole Dispensary, that the $7,000 put in trust for the support of that Institution might be devoted to defraying the cost of the new building, as the dispensary would not be required if a supplementary hospital were opened in Bonham Road. Mr Davis not only agreed to this proposal, but generously offered to give the sum of $3,000 which would still be required to meet the cost of the new bullding. Of course the Committee gratefully accepted this offer. Considering the amount of good which is done by means of the Alice Memorial Hospital, we should not think for one moment, that the Colony, even in its present somewhat impoverished condition, would have allowed the need for a supplementary hospital to remain long unsatisfied if a public appeal were made, but Mr. Davis' benefaction is none the less acceptable. At the Meeting

of the Finance Committee held yesterday, Dr. Cantlie took the opportunity to testify, after five years' experience, that, the admirable method in which this Institution is conducted under the guidance of the London Missionary Society; and at the same time referred to the claims which the Institution has on the generosity of the European Community, dwelling particularly on the advantage which the public derived from the fact, that civil practitioners are allowed to practice in the hospital, thereby 'gaining experience and improving their opportunities.' This is what Dr. Cantlie called taking a selfish view of the matter. It is a view which perhaps would occur to but very few people in considering the claims of the Institution for public support, but nevertheless it is one, which undoubtedly helps to strengthen those claims. We should think, however, apart from this, and on purely philanthropic grounds, that so excellently conducted and deserving an Institution may always rely on being liberally supported by the public. Dr. Cantlie seemed to regard with some apprehension, the possibility of the doors of the hospital being closed against civil practitioners, because "by the original constitution of the hospital civil practitioners have no right whatever within its walls." We should think it highly probable, that he is right in saying, that in such an event, there would be a rapid diminution in the subscriptions to the funds of the Institution, but we can conceive no reason for his regarding this as an event at all likely to occur.

THE DUFFERIN HOSPITAL, RANGOON.

On Tuesday evening the students of the Dufferin Hospital gave a concert in the bungalow on the occasion of the close of the Session. Unfortunately the notice given was very short and the attendance, therefore, was not nearly so large as it otherwise would have been. Amongst those present were Mrs. Vinton, Miss Magrath, Mr. Burbridge, Major Temple, Surgeon-Major Poynder, &c. The Proceedings opened with an address from Amy Loo Nee, and after the students had got through the programme of sacred music together, it was announced, that the following girls passed the examination in Midwifery:—Amy Loo Nee, Ma Shway Noo, Oung Byew, Eh Po, Ma Shan, Samah, Poo Poo, Ma Nyain, Nun Soon, Carrie, Ma Ohn Nwe.

The following passed in Sick-nursing:—Ma Shway Noo, Eh Po, Ma Nyain, Samah, Carrie, Oung Byn, Ma Po Oo, Ma Kyaw Dway, Ma Tway, Ma Gyee, Ma Nee, Ma Aye, Miss L. Athony and Miss Alice Carapiet.

Before the conclusion of the Proceedings, the following address of farewell to Dr. Graham Wright from the students was read:—

To Dr. Graham Wright, as a token of love and remembrance.

We, the Karen nurses of the Rangoon Branch of the Dufferin Hospital, who have passed the recent examination in midwifery, while rejoicing at the thought of having become qualified for careers of great usefulness among the women of this country, feel ourselves prompted by a sense of deepest gratitude to express to you in a few but sincere words our thankfulness for the labourious and responsible duties, which had been undertaken by you to fit us for the noble work which lies before us.

By the daily patience, care and tact you displayed in the theoretical as well as the practical part of our studies, you rendered our work not only easy but pleasant, while owing to your motherly solicitude for our personal comforts and social relations, we cannot but admit, that the Boarding Department, under your superintendence, was to us a happy home.

It is to all these circumstances that we attribute the success over which we have now met to thank you. In presenting you with this address, we are not oblivious of the gratitude we owe to the distinguished Lady, the founder of the hospital, whose name will be perpetuated not only as a great benefactress but as a great philanthropist, nor are we oblivious of those in the Committee, Dr. Pedley, Dr. Wood, Dr. Poynder, Dr. Sutherland, Dr. Phataw, and Mr. Arland, the head Vaccinator, also Ma Moh and Ma A. Ngway, who have associated themselves with the great work inaugurated by her and to whom we are greatly indebted for the voluntary assistance which they have rendered for the advancement of our interest; but to you chiefly do we owe more than we can express, and, therefore, in appreciation of all you have done for us, we ask you to accept from us our warm and cordial wishes for a long life and every happiness, which God grant you in the full measure of His bountiful Goodness.

Vital Statistics.

Calcutta,—Total population 6,81,560 total number of deaths during week ending 7th January 1893, 362. From sporadic Cholera 19, Fevers 147, Bowel complaints 49, all other diseases 147. Ratio *per mille* of population per annum 27·7. Total deaths for week ending 14th January 1893—377. From sporadic Cholera 13, Fevers 137, Bowel complaints 57 all other diseases 170. Ratio *per mille* of population per annum 28·9.

Bombay.—The total number of deaths registered in Bombay, during the week ending Jan. 3, was 449, giving a death-rate of 27·08 per annum per thousand. Of the total number 110 died from fevers; 67, phthisis; 2, leprosy; 30, diseases of the nervous system; 97, affections of the respiratory organs; 21, diarrhœa; 19, dysentery; 21, still-born; 34, old age and debility; 9, accidents and violence.

The death-rate of Bombay has increased very much in the last few years. The total number of deaths in 1892, was in excess of that of 1891 by 2,686 and also greater by 5,999 than in 1880. The returns of the deaths each year since 1881 show the highest figure for 1892. The average mortality in each of the ten years from 1881 to 1890 was 24,717, or 4816 less than in the past year. There was besides no outbreak of any epidemic during this period. The deaths were 200,534 in 1890, 24,817 in 1891, and 26,533 in 8892. The death-rate per 1,000 of the population calculated upon the Census of 1891 was in that year equal to 2901, and in 1892 it is 3226.

Rangoon.—Number of deaths during the week (31st December, 1892, to 6th January, 1893,) 114. Males 79, females 35. Ratio *per mille per annum* 32.87, Cholera, 1 male; Fevers 29 males 35 females; Diarrhœa 3 males; Dysentery 1 male, 1 female; Accidents 1 male; Other Causes 44 males; 29 females.

Rangoon.—Deaths during the week (7th to 13th January 1893)—117. *Ratio per mille* 33·74. From fevers 28 males, 10 females; Diarrhœa 7 males, 3 females; Dysentery 2 males; other causes 33 males, 34 females.

Delhi.—Total number of deaths during the month of November, 1892. 852, males 384, females 468. Christians 2, Mahomedans 337, Hindus 513. Fevers, males, 255, females 318; Dysentery, Males 17, females 23; Chest diseases males 26, females 29; Other Causes, males 112, females 127.

Births registered during the month of November in the town of Delhi—739. males 355, females 384. According to nationality. Christians males 3, females 2; Mahomedans, males 149, females 181; Hindus, males 203, females 199.

The mortality of the City of Lucknow during the week ending the 31st of December, 1892, was as follows:—

From Cholera, 0 from Small-pox, 0 from Fever, 183, from Bowel complaints 13, from injuries 1, from other causes 64. Total 213. The ratio of deaths to 1,000 population is 0·97.

Coorg Vital Statistics.—During November last the number of deaths in Coorg was, males 211 and females 143, total 354. Sixty-five were Coorgs, five Christians, 28 Mahomedans and 255 Hindus. Fevers carried away the majority of these. The number of births in the same month was males 155, females 159.

Medical News and Comments.

The Calcutta Medical Society.—Owing to our space being occupied by other matter we have deferred till next issue, the Transactions of the meetings which took place on the 14th December, and on the 18th January last.

THE RECRUDESCENCE OF CHOLERA.

During the week (December 10th to 23rd) fresh cases of cholera were reported from Hamburg.

A Conference of Port Medical Officers of Health was held at the Mansion House on Dec. 17 to consider the means to be adopted for the prevention of the importation of cholera. Various resolutions were adopted, including one declaring that medical inspection should be kept up by day and by night. It was further resolved to hold a Conference of Port Sanitary Authorities in London at an early date. The *Lancet* says:

We understand that, in view of the prospect of a renewal of cholera next spring and summer, the Local Government Board have decided on an increase in the staff of their medical inspectors, and that the appointments, which are mostly of a temporary character, have already been practically determined on. A cholera survey will forthwith be instituted, much on the lines of the survey that was carried on during the European epidemic of 1884-6. An alteration has also been made as to the orders under which the importation of rags and bedding into this country from infected places is prohibited, the object being to relieve, as far as possible, a number of trades in which various woollen, linen, and other articles, technically described as rags, are largely used for the manufacture of cloth, rugs, paper, &c. The principal changes effected by the new order go to admit all articles that are clean without any restrictions whatever, and of removing the prohibition as regards other rags provided they are properly disinfected at the ports of arrival. If such disinfection is found practicable, it will be proper to maintain it with respect to other diseases than cholera; for if there is one disease which is easily communicated by old torn-up garments, which constitute so large a proportion of the rags used in paper mills, it is small-pox—a disease which has again and again broken out amongst rag sorters employed in these and other mills and manufactories.

In view of the proposed suspension, owing to the fear of cholera, of immigration into the United States, against which the principal steamship lines have protested, it is reported, that a recent meeting of the North Atlantic Steamship Association it was resolved only to carry first and second class passengers after Jan. 1, 1893, and that the arrangements for cheap excursion tickets for the World's Fair at Chicago have been declared null and void. Referring to the action of the North Atlantic Steamship Association, the *Globe* remarks, that from and after Dec. 31, there will be little outlet for the poorer class of emigrants from Germany, Belgium, and Holland. Since they are shut off from seeking employment beyond the Atlantic, they endeavour to obtain it in countries which are still open to receive them:—

The two chief German Trans-Atlantic lines alone transport 200,000 third-class passengers annually, and 50 per cent. may safely be added for the minor companies and the Dutch and Belgian traffic. We may anticipate, therefore, that from the beginning of 1893 a roaring tide of starving humanity will set in from the Continent towards our too hospitable shores, flooding our labour market, largely recruiting the ranks of the unemployed filling the workhouses, and it may be safely prophesied adding considerably to the prison population. What have the Trade Union Leaders to say to this prospect? Will blind obedience to Gladstonism hinder them from embarassing the Government by raising the question of protection for British workmen?

The Indian Medical Service.—At a time when every branch of the Public Service in India is suffering from the small economies to which Government resorts in order to make both ends meet, we think the Indian Medical Service are to be congratulated upon having found so influential a champion as the *British Medical Journal* to look after their interests. In days gone by, this department has reaped the advantage of being an integral part of a learned profession, having a central representative body; for by this means it has been able to force the Government of India to listen to its grievances, and —what is far more important—to redress them. We trust it may succeed in this way again, if the substantial grievances of which it complains are not promptly removed. The Service should combine, and draw up an authoritative statement of its wrongs, pointing out at the same time the redress it seeks.

The Association for Providing Nurses Up-country to Europeans in India has been formed to meet the growing demand in India for trained nurses, of whom there is at present a most inadequate supply. By the enrolment of resident Anglo-Indians as subscribing members, the association will be in great measure self-supporting, but there must be a deficit, owing to the number of patients, (especially those in outlying stations) who are unable to pay more than reduced or nominal fees for the services of a nurse. To supply this deficit subscriptions are earnestly solicited; £75 will export and establish in perpetuity one nurse under the control of this association. Subscriptions may be sent to Hon. Mrs. Neville Lyttelton, 21, Carlton House-terrace, S. W.

The Dufferin Hospital in Calcutta is, the *Pioneer* fears, a failure, that is, for its original purpose, and for the benifit of *purdah-nashins*, of whom there are practically none. The probabilities are in favour of the valuable buildings, which it occupies being eventually disposed of, and the institution taking a shape more in harmony with local needs: the handsome fund available still expressing the benevolent aims of its pious founders.

Volunteer Surgeon.—Dr. Robert Whitelaw, M.B., C.M., is appointed Honorary Surgeon of the Presidency Volunteer Rifle Battalion, *vice* Dr. V. Richards, deceased.

Government Notifications.

MEDICAL AND SANITARY.—Assistant-Surgeon Fatteh Chand, doing general duty at Gujranwala, is appointed to officiate as Civil Surgeon of that station during the absence of Senior Apothecary R. Crossley.

SURGEON-MAJOR T. R. Macdonald and Surgeon-Captain A. Buchanan respectively made over and assumed charge of the Nagpur Central Jail on the 27th ultimo.

Surgeon-Captain G. M. Dobson A.M.S., has been posted to the charge of Station Hospital Shwebo *vice* Surgeon-Major Lloyd, A.M.S., Surgeon-Major E. F. Smith, A.M.S., will on relief proceed to Mandalay and join the Station Hospital.

Surgeon-Major M. S. Eyre was appointed to be Civil Surgeon at Pakokku in addition to his military duties on the 12th November 1892 *vice* Surgeon-Captain C. H. Leet-Palk, transferred.

Surgeon Major C. H. Bennett, M.D., I. M. S., 20th M. I., is granted leave for one year.

Surgeon-Major T, B. Moffit is appointed to have medical charge of the Barrackpore sub-division in addition to his own military duties.

Apothecary J. G. Fleming, officiating Civil Medical Officer, Hazaribagh is appointed to be Civil Medical Officer of Beerbhoom.

Surgeon-Captain A. H. Holt, officiating Civil Surgeon Beerbhoom, is appointed to act as Civil Surgeon of Hazaribagh.

Surgeon-Major H. Hamilton, I.M.S., and the following Hospital Assistants, will march with the 5th Bengal Cavalry, *en route* to Nowgong.

No. 266 Senior Hospital Assistant Shin Parshad Singh and No. 453 2nd Grade Hospital Assistant Balbhadar Parshad.

Surgeon-Lieutenant-Colonel Williams, I. M. S. 9th Bengal Infantry, will, in addition to his other duties, assume medical charge of the Cantonment General Hospital, *vice* Surgeon-Major Hamilton, I. M. S.

Surgeon-Captain Hart, M. S., returns to Fyzabad from Lucknow for duty, after his march with the 46th Battery R. A.

Privilege leave for three months and fifteen days is granted to Surgeon-Captain T. W. Stewart, Civil Surgeon, Toungoo.

On relief by Surgeon-Captain Evans, Surgeon-Captain C. L. Williams is transferred from Mandalay to Yamethin as Civil Surgeon.

On relief by Surgeon-Captain C. L. Williams, Apothecary T. Kiddle is transferred to Tharrawaddy to officiate as Civil Surgeon, *vice* Apothecary C. G. Roberts, who proceeds on leave.

Assistant Apothecary M. E. Mungavin, of the Dullunda Lunatic Asylum, is appointed Resident Medical Officer, Eden Sanitarium Darjeeling.

Assistant Apothecary G. T. Milchem, Eden Sanitarium. Darjeeling, is appointed House Surgeon of the Howrah General Hospital.

Apothecary G. Gill, Howrah General Hospital, is appointed Deputy Superintendent of the Dullunda Lunatic Asylum.

Dr. C. Banks, Officiating Civil Medical Officer, Monghyr, is appointed Civil Medical Officer of Khulna.

Surgeon-Captain C. R. M. Green, Officiating Resident Surgeon, Eden Hospital, is appointed Civil Surgeon of Monghyr.

Dr. V. L. Watts, Officiating Civil Medical Officer, Malda, is appointed to the South Lushai Hills district.

Surgeon-Major T. R. Macdonald is appointed Deputy Sanitary Commissioner of the Western Bengal Circle.

Domestic Occurrences.

BIRTHS.

CHEW.—At Lower Circular Road, Calcutta, on Friday 30th December, 1892, the wife of Dr. Roger G. S. Chew, late Sanitary and Chemical Analyst to the Corporation of Calcutta, of a son.

CLERY.—On the 30th December, at Amballa, the wife of Surgeon-Lieutenant-Colonel Clery, Army Medical Staff, of a son.

ROGERS-HARRISON.—On the 13th January, at Salem, the wife of Surgeon-Lieutenant-Colonel A. N. Rogers-Harrison, of a daughter.

MARRIAGE.

QUINN—NYREN—On January 11th, at Rayapuram, by the R. C. Chaplain, St. Peter's Church, Frank R. Byrne Quinn, Medical Department, Johor Government (Straits Settlements) son of Edward Quinn, M. R. Coy., to Emily Nyren, eldest daughter of H. Hawkes S.M.D.—(Bombay papers please copy.)

DEATHS.

BEDELL.—On the 5th January, at Naini Tal, Ann, the beloved wife of F. F. Bedell, Assistant Apothecary, Depot Station Hospital, Naini Tal,—aged 30 years.

JEPHSON—At Torquay, on December 17, 1892, Mary Harden, widow of Wm, Holmes Jephson, M. D., Deputy Inspector-General of Her Majesty's Hospitals, and daughter of the late Major Horatio Nelson, Madras Army, aged 57.

Acknowledgments.

ANSWERS TO CORRESPONDENTS.

Dr. Sandel.—We regret having had to keep out your artlcle on The influence of Gravitation on the Circulation of the Blood in Health and Disease, also your other paper on The reclamation of land in Orissa. We will try and find space in our next issue.

Dr. B. (London).—Later on we will find space for your paper.

Dr. R. P. Banerjee.—Next month your paper on Indian Snakes will be continued.

S. K.—We will use the cutting you have sent us in a future issue.

Dr. Ghosal.—Your paper on Intra-Uterine medication, next month.

Dr. A. P. Dass.—Next month.

Dr. Moore (London).—Nothing has reached us yet.

Dr. J. C. Day.—Your paper on Tropical Liver Abscess, arrived too late for this issue.

Dr. Pillai, Madras.—Many thanks.

Surgeon-Lieutenant Colonel C. W. Calthrop, I. M. S. Meean Meer.—Many thanks for your kind letter.

Letters and Communications have also been received from the following.

Surgeon-Captain Patrick Hehir, M.D., F.R.S.E., Hyderabad; Dr. Rutherford Morrison, F.R.C.S., Newcastle-on-Tyne; Surgeon-Lieutenant Colonel A. S. Lethbridge, Calcutta; Surgeon-Lieutenant Colonel B. Evers M.D., Raipur; Dr. Chatterjee, Calcutta; Surgeon-Lieutenant Colonel P. Murphy, M.D., Nasik; Surgeon-Lieutenant Colonel T. Robinson I.M.S., Allahabad; Surgeon-Major G. W. P. Dennys, Delhi; Surgeon-Lieutenant Colonel C. W. Calthrop, Mian Meer; Dr. Poorna Chandra Banerjee, Benares; Mr. S. C. Sinha, Calcutta; Brigade-Surgeon-Lieutenant Colonel P. Cullen M.D., Narsingpore; Dr. Walker M.B., Walajabad; Madras; Mahommed Azaharullah Khan, Medical Student, Lahore

Medical College; Dr. R. P. Banerjee, B.A.,G.B.M.S.L., Pachbadra, Rajputana; J. Brown Esq. S.M.D., Balliguda, Ganjam District; Dr. Ghosal L.M.S., Calcutta; Dr. Roger G. S. Chew, M.D.C.M.,M.S.C., Calcutta; Dr. T. M. Shah, Junagadh; Dr. A. P. Dass L.M.S., Calcutta; Dr. Pillai, Madras; Dr. J. C. Day, Assam; H. J. McIntosh, Esq. Under-Secretary to the Government of Bengal, Calcutta; Dr. N. C. Mittra, M.A.,M.B., Ranchi; Assistant Apothecary D. Robertson S.M.D., Sydapett; Dr. Leonard Bidwell, F.R.C.S., London; Isaac McDermott, Esq. S.M.D., Jalna; Dr. Lennox Moore, L.R.C.P., London; Dr. Wright M.D., London; Dr. Nowrojee, Bombay; Dr. Green, London; Hospital Assistant Gunga Ram, Bhawalpore; J. Chaves Esq., S.M.D., Kamptee; Mirza Aziz Beg. Esq., Bhopal; Dr. K. C. Suntook, L.M.S. Karachi; Dr. K. T. Gokhale, Malegaon, Nasik; Dr. Sripati Sahai, Mau Ranipore, Jhansi; Hospital Assistant Rangappa Jagannath, Ilkal, Bijapur; Dr. Appaji G. Kale, Palitana, Kathiawar; Hospital Assistant M. Doorgiah Pillai, Akola; Dr. T. N. Ghose, Meerut; Surgeon Major Harrison, Bhawani, Patna; F. A. Wynne Esq. S.M.D. Madras; Mons. Richy, Paris; Dr. E. Hynes, Moulmein; Hospital Assistant Luckput Roy, Sirhohee; Hospital Assistant K. K. Chakravarti, Sylhet; Dr. Sandel, M.B., C.M., Calcutta; Dr. J. W. Brooks, Quetta; Asst. Apothecary A. E. Almeida Hyderabad, Sind; Dr. Ram Kishen, Lahore; Dr. Burjorji, Chief Medical Officer, Bhavanagar; Dr. J. N. Cook, Health Officer Madras; Messrs. Edmond & Co. Calcutta; Silbiger & Co., Calcutta.

Periodicals.—The Lancet—The British Medical Journal—The Edinburgh Medical Journal—Indian Medical Gazette—Journal de Mèdicine de Paris—Modern Medicine—Australian Medical Journal—The Sanitary Journal—The Medical and Surgical Journal—The Medical Times and Register—The Lancet-Clinic—The Medical Bulletin—The Medical and Surgical Reporter—The New York Medical Journal—The Family Doctor—Doctor's Magazine—Health Messenger—Health—The Medical Record—British and Colonial Druggist—Chemist and Druggist—The Medical Review—New Orleans Medical and Surgical Journal—The Medical Monthly—The Scalpel—The Humanitarian—The Popular Science Monthly—The Sanitary Record—Merck's Medical Bulletin—The Southern Medical Record.—The Sanitarian—Doctor's Weekly—The Post Graduate—The Therapist—The Satellite.

Newspapers.—The Home News—The Indian Daily News—The Statesman—The Eastern Guardian—The Evening Star—Newman's Bradshaw—Hope—The East—Islam—Bombay Native Opinion—Bangalore Spectator—Nagpur and Berar Times—Progress—Punjab Patriot—Arrakan News—Rangoon Gazette Weekly Budget—The Express—Madras Advertiser—Behar Herald and Indian Chronicle—Bombay Guardian—Banner of Asia—Tribune—Beluchistan Gazette—Western Wit and Wisdom—Indian Empire—Gwalior Gazette—Eurasian Recorder—People's Friend—India Watchman—Western Star—Messenger of Light—Indian Nation—Evening Echo—Indian Union—Poona Observer—National Guardian—Indian Engineering—Courier—The Argus—The Bengal Times—Signs of the Times—The Indian Textile Journal.

NOTICE.

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Original Articles.

SOME OBJECTIONS TO HÆMATOZOIC THEORIES OF MALARIA.

BY SURGEON-CAPTAIN RONALD ROSS, I.M.S.,
BANGALORE.

To judge from our Indian medical press, it seems that Laveranism is about to be completely victorious in this country: yet, a little over eight years ago, Tommasi Crudeli, speaking of the investigations into the cause of malaria carried out by Klebs and himself, said "We felt ourselves justified in recognizing the malarial ferment in a *schizomycete of the genus bacillus.* The numerous researches made subsequently by us, and by many other observers, in the soil and in the air of several malarious localities, as well as in the blood and in the organs of men and animals specifically infected, have put it henceforth almost beyond doubt that we really have to do with a schizomycete. Very recently, M. M. Marchiafarva and Celli have succeeded in demonstrating, that the germs of this schizomycete attack directly the red blood-globules and destroy them, causing them to undergo a series of very characteristic changes which admit of easy verification, and which render certain the existence of a malarial infection." Alas, it is now "almost beyond doubt" that we have to do with a *plasmodium!* while Dr. Celli himself does now, I believe, find difficulty in admitting the parasitic origin of malaria at all.

Now, if we Indian medical men are not always able to obtain and read every scientific memoir on the subject which appears, we see what is perhaps better, a multitude of fever cases. Most of us, I believe, have half-a-dozen cases under daily observation and treatment, and we possess every opportunity of studying accurately the symptoms and progress of every sort of endemic fever. I think I shall be right when I say, then, that there are some of us who, having devoted especial attention to the subject, are extremely unwilling to accept any hæmatozoic theory at all, either of Crudeli or of Laveran. Basing our opinion on the broad clinical features of the cases before us, we see no reason for believing that all or many of the endemic fevers of India are in any way diseases of the blood, and still less for considering them to be due to specific infections. We have powerful arguments to the contrary; and indeed, if any hæmatozoön were absolutely demonstrated to-morrow, we could yet show cause why its presence might be entirely of secondary consequence.

These arguments I shall endeavour to sum up as shortly as possible; and they *must* be carefully and fully gone into before any hæmatozoic theory can be established. I shall try and show why it is extremely improbable that the large majority of Indian fevers are due to any specific poison inhabiting the blood; and why, though certain organisms may quite possibly be found in the blood in these cases, their presence there is probably quite a secondary matter.

In the first place, I believe I am correct in saying, that a large number of observers in this country are extremely dissatisfied with the views on Indian fevers given in the text-books and generally held. The old heroic definitions of Martin and Maclean, on which they have been founded, appear to be more or less fabulous. The terms *remittent* and *intermittent*, invented before the clinical thermometer and the discovery of enteric, were applied originally to roughly differentiated groups of fever when all tropical fever was supposed to be "paludial;" and it is now quite clear that much of what the older writers called *remittent* was nothing but typhoid fever, as recognized at present. When however the existence of enteric was admitted the term remittent continued to be used; and when it was seen later that there still remained cases which did not exactly accord with the above, the words *simple continued fever* and *febricula* were resorted to. When it was seen that the paludial idea would not comprise eruptions of fever occurring on highlands, marsh-miasm was expanded into general malaria; and when cases of intestinal ulceration were observed to take intermittent forms of fever, the expression typho-malarial was fortunately composed. Following the old paludial theory most of these fevers were unhesitatingly ascribed to a specific infection from the air; and though later it has become obvious that malarial fever may be quite as rationally ascribed to drinking water as to the air, the idea of the specific infection remains intact. Although in one kind of fever with intestinal lesions, namely enteric, the lesions are no longer generally ascribed to a blood infection, but the converse; yet in other very numerous cases with intestinal symptoms, the latter are held to be merely incidental. The frequency, the nature, the importance of these so called complications have never been sufficiently inquired into, even for purposes of treatment; and the connection between fever, hepatitis and dysentery remains unaccounted for. No adequate study has been given to infantile fevers in India nor to the very important worm fevers. The descriptions of continued fever, febricula, remittent and quotidian are so indefinite that, though by the nomenclature, we may suppose them to be separate diseases, in practice it is often difficult to find either distinction or difference. Why a quotidian should be a malarial fever while a continued fever is not so has never been pointed out. No practical definition of a malarial fever has been given; nor indeed, wonderful to relate, *has any reason save tradition been ever assigned for considering any of our fevers to be malarial at all.* Even in quartan ague, the most distinct form of the so called malarial fevers, *no evidence* has yet been given for supposing the disease to be a specific blood infection. And now, while the

old definitions remain as nebulous as ever, while treatment is left without logical method, while whole districts are declared to be malarious because of disease which after all may not be malarial, while the utmost confusion reigns both as to diagnosis and cause, we are earnestly called upon to study the hæmatozoön of malaria, as if malarial fever were as distinct and specific a disease as small-pox or tuberculosis.

If then we do not wish to find ourselves in the predicament of having discovered the malarial hæmatozoön in diseases which are not malarial at all, we must endeavour to render our definitions more precise and to determine exactly what we mean by a malarial fever. Unless we are prepared to accept all endemic fevers as malarial, we must give our reasons for making a distinction; for until we have done so, different observers will arrive at different results and there will be nothing but endless confusion. And at the offset we must protest against the idea that a mere difference in the fever-chart denotes necessarily a radical difference in the nature of the fever. How can we pretend to assert that febricula and remittent are different diseases simply because one lasts a few days and the other a week or more ?. Yet this distinction is broadly laid down in the official nomenclature. The fact is that the classification of fevers into febriculæ, continued fevers, remittents and intermittent is an entirely factitious one, used for want of a better, and based upon non-essential variations of temperature. Pyrexia is a symptom common to a vast number of diseases and denotes but one thing, namely, that during its continuance, there is some poison working in the system or some irritation acting upon it. A remission denotes that the poison is acting less powerfully, an exacerbation that it is acting more so; and the height of the temperature is generally held to indicate the amount of the disturbance. The chart of many Indian fever cases is very similar to that occuring frequently in traumatic, hectic and septic fevers both in India and in Europe; and the daily rise with rigor, supposed to be so pathognomonic of quotidian, is but what is seen in many other diseases. If we ask whether any other distinctive symptoms are associated with a certain form of the chart, the answer shall be most decidedly in the negative; for we find that febriculæ, remittents, intermittents, and even enteric, are almost always complicated alike with intestinal derangement or hepatic and splenic affection. On the contrary, it is a matter of universal acceptation that these various forms are mutually interchangeable, one often succeeding the other suddenly in the same case; while in large out-breaks of disease in this country all the forms generally occur simultaneously, together with diarrhœa and dysentery. The only exception to this, where a typical chart accompanies a typical lesion, is enteric; but even here we are beginning to see more and more clearly that the typical chart arises only where the intestinal ulcers are allowed to remain in a profoundly septic condition, while cases occur in which the disease is undoubtedly the culmination of preceding attacks of minor fever accompanied by enteritis. Thus we may state roundly that, proceeding from the typical continued type of enteric on the one hand to the typical intermittent type of quartan and malarial cachexia on the other, we have in India an infinite number of fevers of every degree of duration and of remittency, all more or less complicated with abdominal symptoms, all more or less connected together by some mysterious law. In fact while the extreme types of enteric and quartan are sufficiently distinct, the intermediary types are so numerous and varied that we really cannot draw distinctions of kind between them; and, in short, the old classification into febriculæ, remittents and intermittents is, for all we know, as I have said, entirely factitious.

Now which of all these are malarial and which are not ? if quartans and tertians are so, why not quotidians ? if quotidians, why not closely similar remittents ? if these remittents, why not those which approximate to the enteric type ? finally why not enteric itself, as well as febricula ? why not all our fevers together ?. In which of all shall we draw the blood and discover the *hæmatozoön malariæ* ?. On the other hand, if the malarial origin of enteric be denied, how can we venture to assume it for those forms of remittent in which there is profound enteritis of some sort or another ? or indeed even for those cases of intermittent in which there is abdominal tenderness and diarrhœa ?

In truth, I do not think that all those who use the term malaria have clearly defined to themselves what they mean by it; they do not understand to what implied assertions they commit themselves when they apply the word *malarial* to a case of fever. In its original significance the term was associated with three leading ideas: first, that malaria is an endemic aërial poison; secondly that it is of vegetable or natural origin, that is, independent of previous habitation of a locality by man, and that it is not communicable from person to person; thirdly, that it occasions a specific systemic infection, the poison dwelling and multiplying presumably in the blood, and causing certain febrile symptoms and certain secondary lesions of the intestines, liver, spleen and so on. This is the complete theory in brief of the older writers, and even of the present text-books which copy them, although many of the ideas have received important modifications. The exclusively paludial theory was first entirely abandoned (see *I. M. G.* Oct 1885), and it has become likely that the poison may lie in drinking water just as much as in the air; though many people seem to be still unaware of even these small advances. But the other points of the ancient creed remain quite uncontested, and have now resulted in the formation of a full-fledged hæmatozoic theory whose chances of ultimate success, however it will appear, are not large.

How it has not been clearly seen from the first that the true source of the endemic-fever poisons is much more likely to be drinking water rather than air, is astonishing. At all events whatever may be said for a malarious cause may also be said for a malacquous one; and it is curious, to say the least of it, that disease should be attributed to the pure breath of jungles, plains and deserts, rather than to the fetid water of a country swarming with inhabitants, the stagnant wells and tanks and half stagnant rivers seething in a tropical sun and polluted

with the accumulated drainage of millions and of centuries. That fever occurs less on abrupt highlands than in valleys is explained surely more satisfactory by the fact that the water is less stagnant in the one case than in the other, than by any theories based on the poisonous nature of so diffusible and motile a substance as air. The fact that of two places a few miles apart and in exactly the same meteorological, geological and botanical conditions, one may be salubrious and the other most unhealthy, can only be accounted for on the malacqual theory. Again, localities with the most diverse climates have precisely the same fevers: compare for instance the dry, absolutely barren Bolan Pass, the tepid Burmese jungles and the Andamanese Coasts, covered with forest but purified by incessant sea breezes, in all of which identical fevers abounds and in all of which there are stagnant waters subject to the same pollution, animal and vegetable. When troops going upon service are attacked by illness the first cry is "malaria," and people seem to forget entirely the dirty pools at which the thirsty men have drunk, the village cess-pools from which too often their water-bottles are filled, and so on. If in any outbreak of sickness we are assured that the water drunk has always been quite pure, then and then only shall we be able to attribute the cause to true malaria; for it is much more likely, on the face of it, that the endemic poisons lie in the water, where they may be concentrated, than in the air, where they must be attenuated.

Leaving to the reader further consideration of this question, so vastly important in hygiene, in treatment and in theory, I must yet invite attention to one more argument. We may with some reason, I think, expect a poison to act first upon its point of application (as in syphilis, erysipelas, diphtheria, &c). If then the endemic poison is aërial we shall have some ground for expecting it to attack the lungs frequently; but if it lies in the water we shall expect it to affect more frequently the digestive tract, the stomach and intestines in the first place, and *not* the lungs. In the malarial case we shall look for lung complications, in the malacqual for abdominal ones.

Be this as it may, let us now consider the reasons for holding the Indian endemic fevers to be specific blood infections or not. Most fevers may be divided into two classes—those caused by a poison multiplying originally in the blood and producing a primary systemic infection, such as small-pox; and those caused by a poison derived from some local centre of disturbance and producing a secondary systemic infection, such as traumatic fever. The zymotic diseases, for instance, belong to the first class so far as we know. In them there is no local lesion to begin with, in which the poison may be generated; but from the very first the symptoms are indicative of a general disturbance of the whole system and it is only towards the end of the case that local lesions appear in the shape of rashes and sequelæ. The disease takes usually a perfectly definite course and is infectious, producing a like disease in other persons. Here we may warrantably use the expression *primary specific blood infection*, and may warrantably expect to discover a true pathogenic hæmatozoön. To the other class, however, belong hectic fevers, traumatic and uterine septicæmia and pyæmia, the fevers accompanying diphtheria, croup, erysipelas and other local inflammations, in which the poison gradually infiltrates the system from one or more morbific centres. Here the fever lasts just so long as the infiltration of the poison continues, and the blood-poisoning is secondary. Specific it may also be, as in diphtheria and in some other cases, but not always so. A suppurating wound, teeming with many kinds of organisms, may give rise to a secondary blood poisoning, caused by many of them acting simultaneously and therefore not *specific*. It may give rise also to a secondary blood *infection*, such as pyæmia, which persists after removal of the morbific centre but which also need not necessarily be specific, that is, due to a single species of micro-organism. The second class of fevers, then, are either specific or non-specific, are caused either by blood *infection* or merely by blood *poisoning*, but are always *secondary*.

Before discussing the highly important question as to which of these two classes the great Indian endemic fevers really belong, I will notice the case of enteric fever. At first this disease was apparently thought to belong to the first class, that is, it was supposed to be a zymotic fever in which the intestinal ulceration was considered to be secondary to a general primary blood-infection, just as in small-pox the rash is secondary to the systemic disease. So at least the name *pythogenic, ulcer-producing*, imports. Now however the position is being conversed, and it is held more and more that the fever is secondary to the ulceration. Following the lesson taught by antiseptic surgery, we know that any ulcer kept covered with septic discharges is likely to give rise to fever; and we argue that this is not improbably the case in enteric. It is beginning to be held that a great deal of the fever in this disease is of a septic or secondary nature; and as a result or cause of this belief we have the antiseptic treatment in typhoid. Indeed there is no cause for thinking that there is any primary blood infection here at all, for all the fever and systemic poisoning may be explained as entirely secondary to the process of intestinal inflammation and ulceration. *That* process perhaps *is* specific, but this does not permit us to say that the blood poisoning is specific also. The commonly irregular nature of the chart, the frequent relapses, the results of the antiseptic treatment are strong arguments to the contrary; and indeed in that form of Peyerian ulceration discovered by Vandyke Carter there seems to be no regular fever at all. This disease, therefore, must now probably be put in the second class.

Another, and perhaps a still more important, instance of this change of opinion is the case of traumatic fever. Before the day of Lister this disease was thought to be caused by certain *vicious humours*, climatic conditions, and so on, vitiating the whole system and producing, as a secondary result, inflammation of the wound. In showing that the *fever* is in truth secondary, he produced a great revolution in surgery; and in the case of enteric, just noted, we do but see an extension of his principles to medicine. In fact wherever we find two sets of symptoms together, constitutional and local, experience

and analogy lead us now-a-days to attribute the former to the latter, unless a careful enquiry determines us otherwise. Local diseases are usually so much more easily treated than constitutional ones, that we have the most powerful practical reasons for studying the matter carefully; and a physician who, in a case of fever with diarrhœa, is careless enough to attribute the latter off-hand to a mere complication of the former, is as much to blame as a surgeon who should consider inflammation in a wound to be the result of a septicæmia which it has really produced.

And in almost all cases of endemic Indian fever we are confronted with the same question, *is the fever primary or secondary?*. The idea almost universally accepted, the idea upon which were based the paludial theory, and then the malarial theory, and now half-a-dozen hæmatozoic theories, is that the fever is primary. Malarial disease in short is held to be a non-contagious zymotic disease of vegetable origin.

Now we have several *a priori* reasons for being somewhat doubtful of this assumption. In the first place, the fever is usually too irregular both in rise and fall and in duration to compare with the regular course of the true zymotic fevers. Intermittent fever may be quoted as an exception, but the fact that this form so often runs into other forms must make us hesitate; indeed the mutability of all the forms is most unlike what we may imagine to occur in true specific zymotic fevers. Again when we remember the long remissions which often happen we cannot but be struck by the thought that during them the poison is either dormant or no longer in the system; it often appears most strongly as if it were pouring into the blood from some morbific centre during the exacerbation, and as if it were no longer doing so during the remission. It is difficult to explain, moreover, on the zymotic theory such facts as the extreme frequency of the intestinal complications and of their existence *before* the supervention of the fever; the disappearance of the fever often on a "critical discharge" from the bowels or on the mere exhibition of a purgative; the absence of rash, contagion, and so on. How a purgative or an attack of diarrhœa can cut short a true zymotic disease it is indeed difficult to understand, but that such often happens in Indian fevers is a matter of universal knowledge.

But it is not so much on arguments such as these that we must found our objections to the zymotic theories as on the more powerful ones which lead us directly to the conclusion that the endemic fevers are mostly of a non-specific, secondary character. I have already given reasons for considering water and not air to be the true source of the endemic poisons; and I have suggested that, if this be the case, we may expect the endemic fevers to be largely complicated with disturbance of the digestive tract. That there is a very close relationship indeed between the fevers and gastric and intestinal diseases is strongly suggested by the following facts.

1. That the fevers are very often preceded or followed by dysentery, diarrhœa, enteritis, digestive disturbance and hepatitis depending probably upon a septic condition of the intestinal contents.

2. That during the course of the fever itself there are very frequently present similar affections, or else constipation, pultacious stools, obstinate vomiting, tenderness of the mesenteric glands and so on. This, which is freely admitted generally, becomes, I venture to say, much more evident when a close attention is paid to the subject, so that there are some perhaps who, like myself, will go so far as to say that such complications occur in almost *every* case and, moreover, from the very beginning of the illness.

3. That in great outbreaks of disease in India, as when soldiers go upon field-service or gangs of coolies upon construction, all the forms of endemic fever appear together and side by side with dysentery, diarrhœa and hepatitis, making it probable that similar causes exist for all. Unless then we are prepared to add the latter diseases to the malarial group we must, if the deduction holds true, face about and add the fevers to the group of abdominal diseases.

These arguments, inconclusive as they are separately, do when taken together give strong presumptive evidence in favour of the view that there must be the closest causal connection between fevers and bowel complaints in India. And now, as the culmination of the enquiry, I would ask *what is that connection?*. The answer will probably be supplied at a word by the reader who has had the patience to follow me from point to point and who accepts my premises; and he will see that that answer will illuminate in an instant a score of important difficulties quite inexplicable on the malarial, zymotic or hæmatozoic theory.

The great Indian fevers, simple continued fever, febricula, remittent, intermittent, enteric fevers are probably originally not blood diseases at all but intestinal diseases; and in them the pyrexia is a secondary fever arising from sepsis or from actual lesions of the digestive tract.

Thus in fact the Indian endemic fevers are *sister diseases* of diarrhœa, dysentery and hepatitis, the whole cycle being produced by one single condition, that known as *intestinal sepsis* which denotes a proliferation of organisms in the bowel contents; and the actual fever being caused by an extravasation into the blood of poison derived from retained and septic chyme and fæces or else from inflamed or ulcerated tracts of intestine or from both, just as traumatic fever is caused by an extravasation of poison from the retained discharges or the inflamed surface of a wound.

So far we may surmise merely from the innate probabilities of the case and by the ready solution given on this theory to many questions such as those involved in the connection of the differrent forms of fever with each other and with the bowel complaints; the effect of purgatives, so much more marked here than in zymotic fevers; the similarity of fevers in totally different climates; the bad effects of coarse diet as on active service, and so on. But, I venture to say, we shall be led to a far greater certainty by the careful study of our cases themselves, especially if we hold in remembrance the points indicated above. The abdomen and the excreta should be minutely examined from day to day in *all* cases of fever and

hepatitis as well as in diarrhœa, dysentery and enteric, and the effect of laxatives, and of diet much moderated in *quantity* noted. I may suggest also the *weighing* of the fæces daily as a check upon the amount of food taken, because cases of enteritis *will not get well* in this country so long as the bowels are kept engorged. And it is on circumstantial evidences of this nature and upon common sense interpretations of them that we must depend, since, in these cases, autopsies in the first stages of disease (the stages most important to study) are extremely rare. Moreover we must accept with the greatest caution statements to the effect that the intestine has been examined *post-mortem* in fevers, without any lesion being found. The usual method of cutting the gut away from the mesentery, slicing it open and washing it under the tap is not likely to lead to the discovery of a delicate inflammation which however may just as possibly cause severe fever as a septic whitlow may cause fatal septicæmia. So long as intestinal lesions are considered off-hand as secondary to a blood-poisoning it is not probable that much attention will be paid them.

So far as my own experience goes I must say that I am inclined to affirm strongly.

1. That Indian febricula is really a very slight muco-enteritis with a highly septic condition of the bowel contents.

2. That remittent fever is much the same, only with more extended or severe local inflammation or even ulceration. Many so-called cases are undoubtedly mere fæcal sapræmia. Others are due probably to a small dysenteric patch covered with old standing fæcal matter; and some are cases of Carter's typhoid. The same may be said of quotidian fever.

3. Malarial cachexia, so-called, seems to me to be a condition of profound chronic enteritis, or even ulceration, of some kind or another accompanied with an anæmia similar to that which follows old sinuses and wounds. The frequent presence of intestinal lesions, as seen in autopsies, is admitted, but their true importance as the cause of the disease not clearly seen. I may suggest that one or two dysenteric ulcers are much more likely to lead to a chronic blood poisoning, like what is called malarial cachexia, than to a flux, which possibly occurs only when the implicated surface is much more extensive. The Burmese fever seems to be always associated with severe abdominal symptoms and is, I have little doubt now from a study of many cases, some form or forms of intestinal disease.

4. Of tertian and quartan fevers I see but little, though all I have seen had intestinal symptoms, and I know no reason why they too should not be included with the others. Many are undoubtedly due to a recurrent engorgement of the bowel followed by a day's fever and relieved by an attack of diarrhœa; others possibly are due to some kind of intermittent intestinal sepsis, while others again, as suggested by their more regular form, may be true specific blood infections; but these I fancy are very rare.

5. A very large number of fevers, including the intermittent types, are due to worms, though how they cause fever has never been explained: and, so far as I know, no attempt has been made to do so, although the matter is probably really much more important than the study of the plasmodium malariæ. It is known however that they cause inflammation and abrasion of the mucous membrane and the fever is caused, I fancy, as in the endemic fevers, by these lesions, until the formation of which the worms are possibly harmless. Similarly I may suggest that the true cause of *kala azar* is not so much the bite of the anchylostomum as in chronic septic poisoning occurring through the punctures. Illness in most cases of entozoa is, I submit, produced by collusion with smaller forms; which explains their frequent harmlessness.

6. There is no reason for thinking that any of the fevers are specific, that is, due to one single species of organism or poison. The intestines swarm with so many species even in health, that it is possible many may effect an entrance together at times; and the production of these fevers is precisely similar to that of traumatic and uterine septic fevers which are non-specific. The Peyerian inflammation however may be specific, and perhaps cases of very pure intermittent fever.

7. I am inclined to recognize three stages in the production of fevers—1st, the ingestion in large quantities of certain virulent organisms—2nd, their proliferation within the contents of the intestine—3rd, the opportunity for attack given by constipation, the use of indigestible food, worms, fatigue, previous ill health, chilling of the body, &c. In very many cases I believe, the pernicious organisms are always present in the intestine, a little fatigue or indigestion being sufficient to produce fever. Enteric probably is usually preceded by a long-existing septic condition and, one would think, ought easily to be prevented by antiseptic treatment before the lesions are established. The idea of its being occasioned by the entry of a single pathogenic organism, as seems to be held by some-is sufficiently ludicrous to any one who habitually examines fæces with a high power. The presence of worms can by no means always be detected, for, first, I have reason to think that, many of them are digested after being killed by a vermifuge, and secondly, immature forms give no ova in the fæces. Moreover it is often exceedingly difficult to kill them, especially in those who cannot endure the violent method in use; and this is proved by their sudden expulsion after a long course of vermifuges. Since severe fever does often hang about persons with ascaris, &c., our antiseptic treatment must in *all cases* include santonine, as, in my experience, no cure may be expected until the entozoa are expelled, and it can never be certain *a priori* that they are not present.

These opinions of mine I have given chiefly to show those who have been completely run away with by the hæmatozoic theories that there are other theories in the field quite as plausible: but I do not think that many will go with me so far in all points. Be this as it may I will now give three propositions which, I venture to say, *must* be accepted and which *must* be dealt with before any hæmatozoic theory can be established.

1. In view of the example of traumatic fever and of the highly septic condition of the bowel-contents even in health, it must be clearly shown, in a case of fever with any intestinal lesion or disturbance however slight, that the fever does not

depend upon that lesion or disturbance, before we can accept a hæmatozoic theory of origin. And in the same case, though there may be one or more organisms in the blood, it must be clearly shown that they have not been extravasated into the blood from the intestines.

2. In any case of fever with intestinal symptoms in which the latter have preceded or outlasted the former, or both, it is probably that the fever is a mere incidental symptom of the latter.

3. In any case of fever with or without apparent intestinal symptoms, in which the fever is quickly reduced by the antiseptic treatment, it is probable that it depended in some way upon the digestive tract.

It is hardly necessary to add to these that before assuming a hæmatozoic theory of origin in a given case we must be sure that it is not due to worms.

Before closing I must give a few remarks upon my statement that, even if organisms be found in the blood, it must be clearly shown that they have not come from the intestine. In bad cases of ordinary traumatic septic fevers it is well known that the blood often teems with organisms derived from the wound. Any one who examines fæces with a power of over 500 diameters will be struck by the number of motile and other forms. The whole field often seems to be quivering with them—particles darting about in every direction, rapidly moving rods, spirillæ and so on, while motionless threads of leptothrix, sarcinæ, &c., abound, and other forms have been described. Perhaps it is not too much to say that an eighth part of the solid matter of the excreta consists of living particles in some cases. Nor does this occur only in fæces which have been retained in the rectum, for on giving or taking a purgative the same thing is noticed in fæcal matter which must have quickly descended from the upper part of the bowel. Of course under ordinary circumstances these must be perfectly harmless, as they exist in perfect health; it is easy to see however that at times, as during constipation, the use of impure water, dirty cooking and so on, their number must increase enormously, giving them a tendency to over-master the germicidal action of the tissues, to excite inflammation and finally to pour into the lymphatics and blood-vessels. We may plausibly conjecture that many diseases, now attributed to other causes, may arise in this way—hepatic disease, forms of malaise, dyspepsia, rheumatism, &c. Hence it follows that in any case where there is intestinal disorder or lesion we may very reasonably *expect* to find an ultimate vitiation of the blood. In cases of so called malarial cachexia accompanied with chronic enteritis of some sort, it is impossible to resist the notion that the anæmia is brought about by such infiltration from the intestines. Bacilli, plasmodia we may well have, and a hundred other forms, but they proliferate, not in the blood, but in the bowel-contents. The *likelihood* of the thing is so enormous. It is impossible, I repeat, for any one who has examined fæces frequently, to study the question from the points of view I have suggested and not to have his ideas of Indian fevers and of many other diseases altered *along the whole line*. Why shudder to go out at night for fear of catching malaria, why hunt the air for germs, why tremble for fear of infection from all sides, when billions upon billions of organisms do exist within our very body every moment of our life?. Innocuous, it will be said! Let him who has examined them all say so.

Nevertheless I am not prepared to go so far as to maintain that true malarial fevers do not exist at all. It is quite possible that there may be an infective, aërial poison in thick jungles, low-lying marshy localities and so on, but in my own experience of our fevers I have not found a single case which I am willing to aver is of a zymotic nature. This is a matter to be determined in the future and only after full consideration of the objections I have noted above. As a matter of fact the whole malarial theory has been based merely upon tradition and with absolutely no true scientific criticism of its tenets or examination of rival theories. Not only has none been given but none has been attempted. Moreover it is solely a European theory, and the natives of India themselves attribute illness generally to bad water, and we must admit them to have some experience of their country at all events. It is however high time that the arguments for the malarial and hæmatozoic theories should be taken stock of, formulated and presented in an intelligible manner by those who adhere to them. The reader, if he is one of these, may do so. So far as the argument may be based on the plasmodium, which is not yet proved to exist, which is avowedly found in other diseases, which apparently has no connection with the actual febrile attacks and which may, as we have seen, be extravasated from the intestine, I will submit that it is shadowy in the extreme. What we want is to have cases given which *cannot possibly* be of an intestinal nature; and if we can demonstrate hæmatozoa in such cases we may perhaps argue that they are malarial, but not till then. The present method of stating that they have been found by the observer in this and that case, the symptoms of which receive not the slightest description from him to guide us, is quite valueless and will probably simply discredit the hæmatozoön as malarial in the end. As for the plasmodium, it cannot be wondered at that many hesitate in accepting even its existence. It is so singularly like what physiologists describe as the smaller masses of bioplasm, as platelets with filaments of fibrine attached, as particles of bioplasm emerging from the red corpuscles, and so on. And then the descriptions we can read in this country are so very vague; there are so many German authorities; there are so few *Indian details*. The exact symptoms of the patient, the manner in which the blood is examined, the precise method of staining and of that curious cultivation, will be very interesting to all. And, after all, the parasite may be derived from the intestine.

Then does any one really believe that all the so-called malarial fever in America, Africa, Europe and Asia is due to one single species of organism?. He must be sanguine indeed who does so. Contagious diseases which are carried about from man to man may be so, but hardly endemic diseases.

No, these fevers are probably not zymotic, not hæmatozoic, not specific at all. They are intestinal, and allied to the

septic fevers. Let me remark, in conclusion that if this is so it will be fortunate for us all, for we shall have to do with the readily treated digestive tract instead of attempting to influence the course of a zymotic disease, which as we all know is not easy. In fact it is because of the practical point of treatment that I have ventured to deal with these questions here. It is of the first importance clearly not to make the mistake of treating a case of enteritis as if it were a specific blood disease, and this mistake we are continually liable to so long as we proceed, on the malarial superstition, to consider every fever zymotic and every intestinal symptom merely secondary.

Limitations of space have compelled me to be very sketchy and, I fear, dogmatic; but it must not be imagined that a great deal more cannot be said in illustration of each point. Very much may be said in favour of the malacqual theory, arguments being gathered from the whole literature of the endemic fevers; very much on the connection between the fevers and the bowel complaints, as seen in outbreaks and as illustrated by statistics. The question whether the endemic poisons are of vegetable or animal nature, or both, is interesting for epidemiological reasons. Multitudes of cases tending to show that our fevers are of intestinal origin may be given: but as a friend said to me—"One may prove anything in that way," and it is perhaps better simply to state one's case and leave those interested in the subject to study the fevers for themselves. Of production of disease by a preliminary proliferation of organisms in the intestinal canal, or what we may call esoteric infection *versus* exoteric infection, so much may be said that it is better to say very little, leaving the rest to the reader's intelligence. For the solution of the Indian fever question, what we want is clear definition of ideas, careful scrutiny of all assumptions and a common-sense interpretation of the phenomena before us; and they are much mistaken who imagine that so vast and various a problem will ever be solved by a single *coup de microscope*.

TYPHOID FEVER AMONG THE NATIVES OF INDIA—DIAGNOSIS AND TREATMENT. A CLINICAL STUDY.

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It is rare to find typhoid fever among the Indians characterized by typical landmarks as we see depicted in books. And the peculiarity of its onset, its diagnosis, and its treatment, as applicable to the Indians in the strict sense of the term are, I hope, sufficient grounds for touching upon a subject, about which so much has been written. Whether this fever is so rare among the inhabitants as thought by many is a question yet to be solved, I mean whether the inhabitants of warm climates are equally predisposed to its influence as those of temperate ones. The dusky color of the skin masks the most peculiar character of the disease, that upon which its main diagnosis rests. And it might with propriety stand to reason, that the climate in addition helps to obliterate many of the prominent signs of the disease. It has been remarked, that in the colder regions of India, as Shillong, Darjeeling, Simla, and other places situated in the higher altitudes, the eruptions are very characteristic, approaching those described in books; and among the Europeans the characteristics of a true eruption are very often met with. Recently I have had to treat some cases of continued fevers undoubtedly typhoid, and excepting in one of these I was totally frustrated in my attempt to note the eruptions although in most of the cases I was on the look out for them from the beginning. Though much has been discussed about the treatment of typhoid fevers, one ought to have fair grounds to base his diagnosis upon, before he attempts any such. Eruptive fever as it is styled, one must not expect here in India to confirm his diagnosis by the eruptions, but ought to be on his guard to catch other symptoms. And, moreover, cases have been known to pass through all the stages of typhoidal lesions without manifesting any of the symptoms of the disease. These cases have often been diagnosed as those of remittent fever. And, surely, the *post mortem* table is the only place if available for the correct diagnosis of these cases. There is an error current among a certain class of practitioners of confounding typhoid fever with the typhoidal symptoms occurring in the later stages of certain fevers. Whenever in the course of any fever, generally towards their termination, there is profuse diarrhœa, or symptoms develop indicative of great loss of vital power, as mutterring delirium with *sordes* on the teeth, picking up of bed clothes, &c, these fevers are diagnosed as typhoid ones, and treated as such. But it should be borne in mind that the symptoms alluded to above, are not characteristic of typhoid fever only, but are met with in the course of any fever, Passing on to the digestive tract where one expects to find more materials to correct his diagnosis, as it is the region where the local manifestation of the disease presents itself; in some early diarrhœa may be noticed, in others it comes on in the later stages, while many far from manifesting it complain of constipation throughout the course of the disease. In some, pain in the abdomen is the first symptom of the disease to call attention to, whilst in others pain on pressure in the right iliac region may be noticed, gurgling may be elicited by pressing the region, but it is no way diagnostic. Now, let me refer to the stools of typhoid patients, which when present are indeed the most characteristic of the disease. For, it is impossible not to notice any such in the stools of patients who have marked lesions in the intestinal tract. These are stools of irritation or inflammatory diarrhœa and evidently the canal has been subjected to the irritation of the local manifestations to account for these. The stools are *pea soup* in colour and consistency, and deposit a sediment when allowed to stand for some time, with a clear liquid above it.

As for the characteristics in the temperature, it is impossible in private practice to have it regularly done. For, sometimes the patients object, at other times, there may be no one

to record it, or thirdly the patient may be delirious and so render it impossible to take it.

It is remarkable that a disease so characterised by distinctive signs does not always show itself in black colors at the onset. I have had a child under my treatment who for the first week of his illness used to come to my quarters for medical advice, but latterly this illness proved to be a case of typical typhoid fever. Thus the principal points for diagnosis are the eruptions by themselves, if present quite sufficient, in their absence all the other symptoms described combined, but singly each is not corroborative.

Treatment.—General management as regards diet, great care should be taken and any indiscretion on the part of the physician or friends might lead to serious consequences. For, when the intestinal tract is in a state of irritation, and the strength of the patient at an ebb, nourishment in any shape must be pushed on, else, failure of strength would add to the chances already against the patient. And hence the resources of the physician are taxed to the utmost to find a suitable diet for his patient, which would at once be nutritious, non-irritative and assimmilable. Europeans frequently make the mistake that rice is a light diet, but bearing in mind that rice is the staple food of the Indians, it does not suit the weak digestion of typhoid fever patients. The reason of this is apparent, for the European accustomed to a fleshy diet naturally look upon rice as a light food. After a good deal of discrimination, the choice is ultimately between soup and milk. A flesh diet in the form of soup or extract does not seem to agree with typhoid patients, for sometimes, the diarrhœa increases after its use, and moreover unaccustomed as many of the Indians are to the use of a flesh food, they have strong prejudices against using these in any form, and would rather meekly await their fate than be compelled to take meat. And I had occasion to notice that these extracts, however their nauseating smell had been masked, were often rejected by the stomach, making the patient sick and exhausting the little storehouse of energy still left. So, at last, we are thrown upon our last resource, *milk*. To give it pure is to make the case worse by increasing the liquid evacuations. To mix a tablespoonful of *lime water* to a cup of milk is a good way of giving it. But, if it is feasible, the best plan is to give it peptonized. And, the simplest way of doing it is to add 10 to 15 drops of *liquor pancreaticus* to the milk before taking it, or still better to follow the regular method of preparing, which though tedious when once learnt is managed easily. Barley or arrowroot may with advantage be mixed with the milk.

Therapeutical.—The temperature should be recorded very accurately, if it rises above 103°F, *phenacetin* is to be administered in doses sufficient to bring the temperature to 98°F, one need not be afraid of pushing it, it is the safest antipyretic now known. Having thus arranged for the proper care of the nervous system, let us turn our attention to the symptoms of the local mischief. If there be no diarrhœa at the outset, it is as well to begin with a purgative dose of *calomel* to clear out the bowels, but in case of diarrhœa, even if the mildest form has shown itself, purgatives, the least harmful, should *never* be hazarded. As the bowels are in a state of irritation from the inflammatory mischief which has been going on, the stools are watery. Any astringent medicine more or less irritates the already inflamed areas, so their adminstration instead of arresting the diarrhœa, causes increased watery evacuations. In a private case of mine having tried all the astringent medicines at my disposal, and failing in my attempt to check the profuse diarrhœa, I had recourse to the advice of the Civil Surgeon, who suggested to me the use of enemata of starch and opium. Any medical practitioner in India ought to know, what tremendous obstacles he has to combat with in advocating the use of enemata in the treatment of private patients, especially when they are females, and so I had to give up the idea, and, moreover, the only non-irritating astringent *opium* is inadmissible in many cases owing to the incipient congestive state of the brain. The best treatment for controlling the evacuation is counter-irritation. Rationally, it is *the* treatment which ought to succeed inasmuch unless something be done to diminish the inflammatory state of the bowels, the diarrhœa cannot be kept within reasonable bounds. Hot water fomentations followed by linseed meal or bran poultices acts like a charm. The stools diminish in number and quantity. Internally sedatives such as *bismuth subnitras* with *pulv acacia* may be given. Generally there is delirium, but not often of a violent character, and this, if due to the high temperature of the blood, can be kept within bounds by suitable doses of *phenacetin*. Mutterring delirium is to be combated against by keeping up the action of the heart by regulated doses of *vini gallici*. Indeed, it is advisable to anticipate it by commencing, as early as there is the least sign of weakness of the heart by giving topical and diffusible stimulants. If the pateint complains of sleeplessness *pot. bromid* may be given, or *paraldehyde* may be substituted for it if the former be contra-indicated. Very severe headache at the outset is a very bad sign, indeed, these cases go bad or turn out to be serious ones. As for special treatment of this disease, much has been advocated and few have been found to stand the test. It is very difficult to apply a routine treatment to every case. Some cases go on well to their termination without the use of a drop of any antiseptics whilst in others those who have tried, have obtained the best results from their use, and it is rational to try treatments which give the greatest percentage of success. Recently a writer in the *British Medical Journal* advocated the use of *carbolic acid pills* of 2½ grains each, coated with keratin, and he has given the results of experiments with these, though not very encouraging. I have had occasion to try *carbolic acid*, but without the least benefit manifested either in the diminution in the number of the stools or any amelioration in the general symptoms of the disease, and I have since given up this treatment. Turpentine is efficacious in certain stages of the disease when the bowels are more or less shut up with tympanitis, but it should never be hazarded when the bowels are in a state of irritation, and when diarrhœa is present, for then there is an aggravation of the

symptoms, the diarrhœa increases, and the case goes from bad to worse.

I wish to add notes of some of the cases which have lately been under my treatment to illustrate the points mooted above.

Case I.—A child, 10 years of age, felt unwell one morning. By noon he had some feverishness with well marked pain in the abdomen. In the afternoon the pain was aggravated to such an extent that the child was rolling on the ground from the severity of the attack. No questioning could elicit from him as to the localization of the pain which was tormenting him. Steady fomentations with turpentine, followed by linseed meal poultices diminished to a certain extent the acuteness of the attack as evinced by the quietness of the patient. The fever continued for three days without any marked symptom but the pain though bereft of its intensity still kept on in a mild form. On the fourth day, symptoms of congestion of the brain manifested by delirium, set in. The child being restless, it was impossible to record the temperature by a thermometer. The only means possible to gauge the heat was by feeling the pulse and the skin. *Phenacetin* in 3 grain doses was pushed on as soon as the skin became hot enough. And along with it *pot. bromide* in three grains doses every three hours. This state of things went on for three weeks and it was only during the 4th week that the characteristic stools were evacuated, and then, the case was diagnosed to be one of typhoid fever. Towards the middle of this week the delirious symptoms began to abate, and the temperature to keep low. The delirium was of a very violent character. Although a mere child of thin build, it required the help of two strong persons to keep him on his bed. By the end of the fourth week, the fever left him.

Cases II, III and IV.—These three cases occurred in one family. At first a child of 12 years had an attack of fever of a remittent type. There were no symptoms of diarrhœa. The fever continued for 21 days, but on the 22nd day the temperature got down to normal, and he was declared convalescent. This case appeared to all intents and purposes to be a typical case of remittent fever, but considering that two others of the same family had typhoid immediately following this, I am of opinion that this was a masked typhoid fever. A week had not passed before an infant, nephew of the case No. II, *æt* 1 year, had an attack of fever accompained with profuse watery stools. The fever was not of a high type, but the peculiarity about the diarrhœa was that after even a dose of a few grains of *bismuth subnitras*, it stopped, and the intestines began to distend with gaseous accumulation. Hot fomentations relieved the patient by causing one watery evacuation. This state of things went on for nearly three weeks till the fever died out. A fortnight after, an elder brother of case No. II, *æt* 18, was attacked with fever and diarrhœa. It was an ordinary case of typhoid fever unattended with any severe symptoms. In three weeks the patient was free from fever, and remained so for nearly a week, when he had a relapse. The relapse was of a severe type, for, in an already well nigh exhausted system, the diarrhœa made the patient so weak as to deprive him of the last spark of vitality still left in him. The diarrhœa went on increasing till the stools consisted of nothing but blood, in addition to this, he began to vomit blood and there was epistaxis. On the 22nd day of the relapse, he had eruptions all over the body and face. The eruptions were distinctly raised, the surface oval in shape, vesicular in character, and blackish red in color. They did not disappear on pressure, and covered the face, inside of the nasal cavity, and other parts of the body. On rupturing them a few drops of blood flowed out freely. Under astringent treatment the number and quantity of bloody stools passed gradually diminished, but one morning I was called in haste to see him as he had some very bloody stools, and had vomited blood. I found him almost sinking, pulse very weak and almost imperceptible. In a quarter of an hour he passed another stool and had to strain a little. In a little while no pulse could be felt at the wrist, clammy perspiration covered the face and he was dead in a few minutes. The cause of death most possibly was perforation of the intestines.

The peculiarity of the eruption was very marked, appearing as it did on the 22nd day of the relapse. The frequency with which these cases came on in the same family led me to enquire into the cause of this. There was an underground drain beneath the floor of the room occupied by the three patients, and somehow or other the stench leaked into the room as manifested by nauseating smells. And therefore this fact might be put down as one of the main causes of the attacks. The remaining members of the family have since vacated the building and are enjoying pretty good health.

Case V.—This was of a child, *æt* 12 years. Used to attend my quarters for slight fever. This state of feverishness continued for one week, when the temperature began to get higher and diarrhœa set in. The stools numbered 10 to 12 during the day, and as many during the night. All the astringents were administered but to no use, ultimately fomentations were tried and the number of the stools became less day by day. As soon as the temperature went beyond 103°F, delirium of a muttering character commenced, but by regular doses of *phenacetin*, the temperature was not allowed to get above 103°, and hence delirium did not reappear. After the stools had become less, the fever assumed a peculiar type, just like regular paroxysms of ague. Every day at 12 noon he used to feel a shivering and after it had lasted for a few minutes the extremeties became icy cold, and then the fever was ushered in. I tried *quinine* but it had no effect. On the 28th day, the temperature went down and he was free from fever. I had tried carbolic acid in the early stage, but without any appreciable benefit.

Case VI.—This was the case of a child, *æt* 7 years. At first the fever was of a remittent type without any diarrhœa. Under ordinary treatment, the fever went off in the course of the third week but on the 21st day, all of a sudden the temperature became subnormal, the face covered with cold clammy perspiration, pulse small, almost imperceptible, in fact

the patient was in a state of collapse. By administering stimulants, the temperature rose to normal. In the course of a week after this, fever come on with diarrhœa. I prescribed some astringent mixture and it had the desired effect, but the friends of the patient, in their over-anxiety administered two extra doses of the mixture. Whether from the latter fact or not, it is very difficult to make out, but the day after the bowels did not move. And, along with the confined state of the bowels, there was great tympanitis over the whole abdomen. Enematæ of *turpentine, tinct assafœtida* and *caster oil* were tried, but it brought away small quantities of black fæcal matter. The distension of the abdomen became so great as to interfere with free respiration. *Extract belladonna* and *glycerine* were applied over the abdomen, and linseed meal poultice over that. Vomiting set in, the vomited matter consisted of thick greenish liquid. Internally *sodii bicarb* in 5 grains doses with some antispasmodics were ordered. The patient was verging on towards his grave when on the 24th day copious motions were passed. Improvement set in since the night, and in a fortnight he was discharged *cured*. This was a case of tpphoid fever, but whether the symptoms above noted were due to intestinal obstruction or peritonitis is difficult to make out. As to medicine, which turned the chances in favor of the patient, I can't believe *sodii bicarb* could have accomplished it, but the *crisis* came on the 28th day of the fever, the usual period of typhoid, and it was this that turned the course of events.

Case VII.—This was a female, married nullipara in her teens. Had fever with diarrhœa. As it was useless to try astringents, fomentations were continued. Internally, one day turpentine was tried but the diarrhœa got worse and it had to be omitted. By mistake, medicine was dispensed the next day in the phial which had contained turpentine, and so the number of stools increased. As no cause could be assigned for it, it must have been the medicine in the turpentine phial that irritated the bowels. Delirium showed itself early, so *phenacetin* had to be pushed on rather freely. But by the end of the fourth week, the fever left her by *lysis*.

There can't be any doubt that the cases noted above were all typhoid fever ones. Excepting in one of these none had any eruptions. The cases were diagnosed from all the symptoms combined.

I would conclude my paper by writing something about relapses of typhoid fever. They are not regular, but do what you will, you are sure to have them. Some have contended, that too early use of solid food leads to these, but it is difficult to keep a patient on liquid food for so long a time, and after he has been quite free from fever for some time. In six of the above cases, there were relapses, but excepting in the fatal case, the relapses were not so serious as the original attacks.

A Committee has been appointed which will make a tour of inspection for the purpose of enquiring into soldiers' food, and the best means for improving their meals. The recommendations of the Committee will be looked for with interest.

OPHIOLOGY
OR
A DESCRIPTION OF THE SNAKES OF INDIA.

(*Continued from page 6, Vol. II.*)

BY R. P. BANERJEE, B.A., G.B.M.S.L.
PACHBADRA, RAJPUTANA.

The forms of wounds inflicted.—These are again so peculiar with harmless and venomous snakes, if once carefully studied with a few exceptions, all that is necessary can be learnt about them, whether they will have fatal effects or not.

The bites from harmless snakes are generally peculiar in themselves and in two double rows, the central or inner being the longest of the two, they all present dotted appearances of comparatively little depth, not even penetrating the skin, and sometimes touching only the cuticle, simulating some slight bruises. These small and insignificant punctures are inflicted by the numerous palatine and maxillary teeth, and are of little consequence as to their after-results. I must mention here that the awe inspired by the sight of such reptiles whether poisonous or non-poisonous is so effective sometimes, that the moment a bite has been inflicted, the victim's self possession is overpowered by a peculiar nervous shock which makes him or her sink and become insensible or comatose. I have seen cases of bites of harmless snakes produce effects exactly like that produced by a venomous one, and it is such cases, that are manageable with stimulants, cordials and other remedies, that are so often pronounced *cures* by gipsy doctors and snake charmers, or snake doctors in this country, and these people make as a rule the bites their study, and recognize at sight their nature and according to the prospects of the case undertake to cure it and apply their *nostrum*, while where there is a bite from a venomous snake, various averse conditions of stars, luck, &c, are urged either to excuse themselves of treating the case or to predict the fatal result thereof. The *bites* of venomous snakes are very peculiar, they resemble that of the harmless ones, but the two outer rows are deficient and are usually represented by one, two and sometimes three, distinct, deep, often bleeding, round or reniform (kidney shaped with reiterant angle upwards) punctures, and often penetrating deep into the skin. These are inflicted by the fangs. Those forming the inner rows are generally inflicted by the palatine teeth and are quite harmless, but those by the fangs generally lead to fatal results.

N.B.—Plates are appended for illustration on page 75, the figures being much enlarged.

CHAPTER II.
CLASSIFICATION OF INDIAN SNAKES.

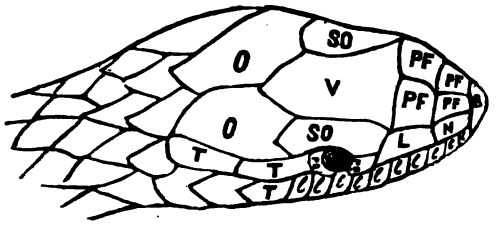
SNAKES have been conveniently classified for the sake of easy diagnosis as follows, but for a detailed classification with more scientific accuracies, the reader must refer to more elaborate works on the subject.—

I. COLUBRINES.

A. Non-venomous.

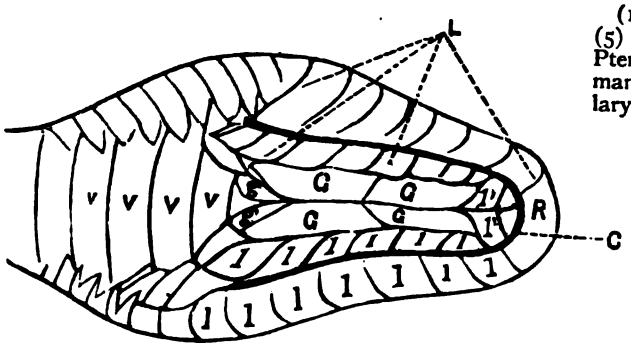
I. Usually of anomalous forms with defective ventrals and head shields. 1. Typhlopidæ. 2. Tortricidæ. 3. Pytho-

Fig., 1. HEAD SCALES. UPPER VIEW.



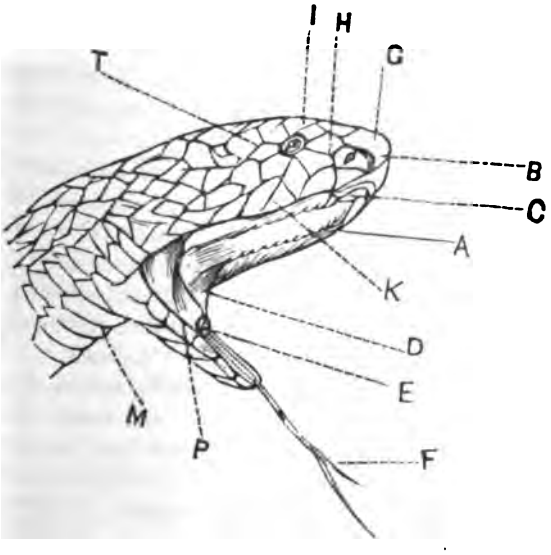
(V) Vertical. (SO) Supra-orbital or supra-cilliary. (P.F) Post-frontal. (PF) Pre-frontal. (R) Rostral. (PO) Post-ocular (PO) Pre-ocular. (N) Nasal. (L) Loreal. (l) Labial. (T) Temporal. (O) Occipital.

Fig. (2). HEAD SCALES. LOWER SURFACE.



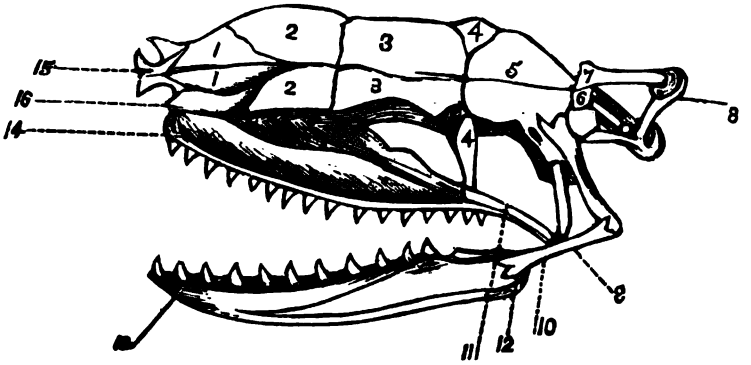
(R) Rostral. (C) Cleft of the mouth. (l) Labials. (l') Mental. (G) Gular. (g) Geneial. (v) Ventrals.

Fig. (3).—HEAD OF THE COBRA, AND THE GAPE OF THE MOUTH.



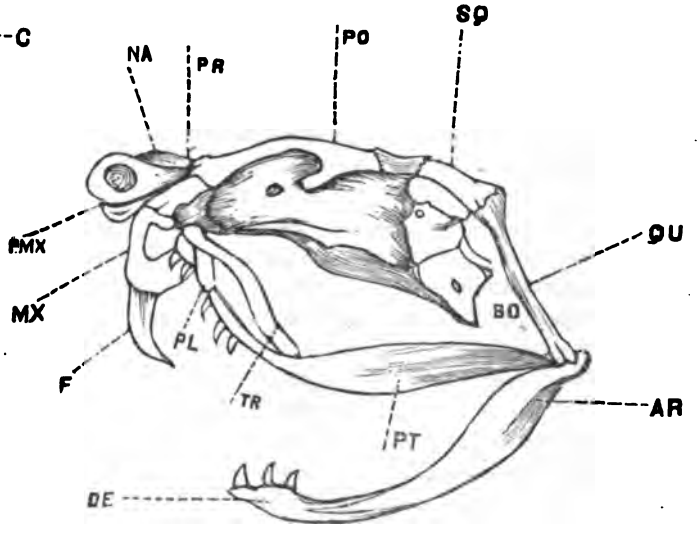
(A) Mucous fold covering the poison fang. (B) The rostral. (C) The fang. (D) Mucous membrane surrounding the larynx. (E) The glottis. (F) The tongue. (G) Nostril. (H) Pre-ocular shields. (I) Supercilliary. (K) Labials. (M) Ventral. (P) Post-ocular shield.

Fig., 4. HARMLESS SNAKE—SKULL.



(1.1.) Nasal. (2.2.) Pre-frontal. (3.3.) Frontal. (4.4.) Post-frontal. (5) Parietal. (6) Proötic. (7) Squamosal. (8) Quadratic. (10) Pterygoid. (11) Transverse bone. (12) Articular portion of the mandible. (13) Dental portion. (14) Maxillary bone. (15) Pre-maxillary. (16) Lachrymal bone.

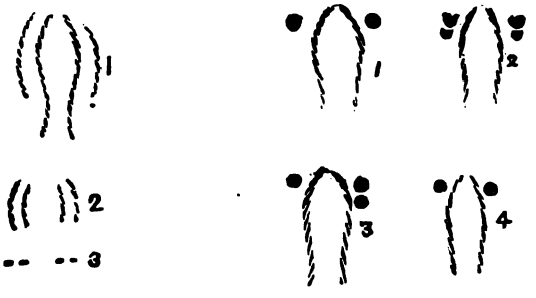
Fig., 5. POISONOUS SNAKE.—SKULL.



Crotoloidean skull.—
(DE) dentary portion of the mandible. (PMX) Pre-maxilla. (AR) articular portion. (PO.) Post-frontal. (MX) Maxilla. (QU) Os quadratum. (PR) Pre-frontal. (F) Fang. (SQ) Squamosal. (NA) Nasal. (PL) Palatine. (PT) Pterygoid. (TR) Transverse bone. (BO) Occipital

Fig. (6). PUNCTURES OR BITES OF SNAKES.

Harmless. Venomous.



nidæ. 4. Erycedæ. 5. Acrochordidæ. 6. Uropeltidæ. 7. Xenopeltidæ.

II. Snakes that have doubtful appearances, of intermediate type, with ventrals fairly formed, and head shields still defective. 1. Calamaridæ. 2. Homolopsidæ. 3. Ambly-cephalidæ.

III. Snakes having ventrals fully developed and head shields normal. 1. Oligodontidæ. 2. Lycodontidæ. 3. Colubridæ. *(a)*. Coronellina. *(b)*. Colubrina. *(c)*. Dryadina. *(d)*. Natricina. 4. Dendrophidæ. 5. Dryophidæ. 6. Dipsadidæ. 7. Psammophidæ.

B. Venomous snakes. In which the upper maxillary is furnished with fangs, appendages, and poison glands. The fangs are more or less erect.

I. Snakes having shields normal, well developed ventrals, but have no loreals. 1. Elapidæ. 2. Hydrophidæ.

II. VIPERINES.

Snakes with fangs capable of complete depression, and the fangs are often much longer than in other varieties of snakes, all poisonous.

A. Fangs long and recurved, and the snakes have a pit between the nostril and the orbit.

1. Crotalidæ.

B. Fangs often long, recurved, and grooved on the convex surface, which can be folded up. These have no pit. Head thick and usually triangular, scaly, no shields present.

1. Viperedæ.

NATURAL ORDERS.

1. *Tylophidæ.*—(Blind snakes). Small, often cylindrical, eyes rudimentary, ventrals absent, head shields abnormal, in some, rudimentary hind limb is present. These are of burrowing habits and rarely seen—*Gen*: *(a)*. Typhlina. *(b)*. Typhlops. *(c)*. Onychocephalus.

2. *Tortricidæ.*—(Earth snake, tails short). Body small, tail short and conical, eyes small often invisible, head shields defective, a single pair of frontals present, ventrals very rudimentary, with rudimentary hind limbs. They are usually burrowing.—*Gen*: *(a)*. Cylindrophis.

3. *Pythonidæ.*—(Pythons).—Body often very thick, size often very large, ventrals over 240; scales over 65, smooth labials pitted. Rudimentary hind limbs often present, and visible. Head depressed, but shields abnormal.—*Gen: (a)*. Python.

4. *Erycidæ.*—(Sand Snakes) —Body thick, tail often short, ventrals numerous and narrow-scales ∞, head scaled, rudiments of scales present.—*Gen: (a)* Gongylophis. *(b)* Cursoria. *(c)* Eryx.

5. *Acrochordidæ.*—(Warted snakes).—Head small, eyes small and often indistinct, body covered with tuberculated scales, ventrals and subcaudals absent. Nostrils superior.—*Gen*: *(a)* Acrochorders. *(b)* Chersydrus.

6. *Uropeltidæ.*—(Earth snakes).—Head short, and conical, tail short ending in a disc, one pair of frontals present. Palatine teeth absent, ventrals faintly apparent. Habits burrowing.—*Gen*: *(a)* Rhinophis. *(b)* Uropeltes. *(c)* Silybura. *(d)* Plectrurus. *(e)* Melanophidium.

7. *Xenopeltidæ.*—(Iridiscent snakes).—Body cylindrical, tail short, often tapering. Head covered with a large scale, and flat or depressed. Color of the skin often very brilliant.—*Gen: (a)* Xenopeltis.

8. *Calamaridæ.*—Eyes small, ventrals and subcaudals developed. Head shields defective (anterior frontal or the loreal).—*Gen*: *(a)* Calamaria. *(b)* Macrocalamus. *(c)* Oxycalamus. *(d)* Geophis. *(e)* Aspidura. *(f)* Haplocercus.

9. *Homalopsidæ.*—(River snakes). Tail compressed, ventrals narrow, nostrils superior with valves, nasal overlaping the anterior frontals, last tooth transitional. Habit marshy or aquatic.—*Gen: (a)* Fordonia. *(b)* Cantoria. *(c)* Cerberus. *(d)* Hypisirhina. *(e)* Ferania. *(f)* Homolopsis. *(g)* Hipistes. *(h)* Gerarda. *(i)* Herpeton.?

10. *Amblycephaalidæ.*—Body compressed, head short and massive, shields all round the orbit, mouth small, mandible less moveable.—*Gen*: *(a)* Amblycephalus. *(b)* Parēas.

11. *Oligodontidæ.*—Shields normal, ventrals fully developed, teeth few, sometimes palatine not present.—*Gen: (a)* Oligodon. *(b)* Simotes.

12. *Lycodontidæ.*—Body usually slender, head distinct snout elongated, eyes small, pupil erect, a large fang on each side, but harmless. The fang is not groved or hollow.—*Gen: (a)* Lycodon. *(b)* Tetragonosma. *(c)* Leptorhytaon. *(d)* Ophites. *(e)* Cercaspis.

13. *Colubridæ.*—Body trilateral, sometimes compressed, shields normal, ventrals fully developed, eyes large and the pupils round. Agile in habit, good climbers and swimmers.—

i. *Sub-order, Coronellina.*—Small in size, shields imperfectly developed, scales very smooth.—*Gen: (a)* Ablabes. *(b)* Cyclophis. *(c)* Odontomus. *(d)* Nymphophidium. *(e)* Elachistodon. *(f)* Coronella?

ii. *Sub-order, Colubrina.*—Size large, scales keeled, active climbers, and very agile, eyes large.—*Gen*: *(a)* Coluber. *(b)* Elaphis. *(c)* Compsosoma. *(d)* Cynophis. *(e)* Ptyas. *(f)* Xenelaphis. *(g)* Zamenis.

iii. *Sub-order, Dryadina.*—Body, compressed, ventrals ∞, coloration generally green, eyes large and pupils round, shields normal.—*Gen*: *(a)* Zaocys. *(b)* Herpetoreas.

iv. *Sub-order, Natricina.*—Scales keeled, ventrals ∞, nostrils superior, eyes large and round, pupils variously colored. Amphibious habit.—*Gen: (a)* Tropidonotus. *(b)* Atretium. *(c)* Xenochrophis. *(d)* Prymnomiodon. *(e)* Cadmus.

14. *Dendrophidæ*, (Tree snakes).—Body compressed and slender, head long, neck slender and distinct, ventrals broad and ends keeled, eyes large, pupils round, anal scale bifid, shields normal, scales imbricate.—*Gen: (a)* Eonyosoma. *(b)* Phyllophis. *(c)* Dendrophis. *(d)* Chrysopelea.

15. *Dryiophidæ.*—Body slender, snout elongated, eyes moderate, pupils vertical, ventrals broad and much keeled, tail often equal to the body, head distinct and narrow.—*Gen: (a)* Tropidococcyx. *(b)* Tragops. *(c)* Passerita.

16. *Dipsadidæ.*—Body compressed and long, neck and head distinct, head broad and short, vertebrals large, scales smooth,

anal entire, eyes moderate, pupils vertical, habits woody.—*Gen:* (*a*) Dipsas.

17. *Psammophidæ* ?—Body and tail long; head distinct; loreal region concave; pupils irregular, vertical, rarely round; loreals present, superciliaries prominent, anterior teeth very long and grooved, ventrals broad and keeled at the ends.—*Gen:* (*a*) Psammophis. (*b*) Psammodynastes.

18. *Elapidæ.*—Body moderate, tail short, no loreals, eyes small, pupils round, erect poison fangs in front of maxilla.—*Gen:* (*a*) Noga. (*b*) Ophiophagus. (*c*) Bungarus. (*d*) Xenurelaps. (*e*) Megœrophis. (*f*) Callophis..

19. *Hydrophidæ.*—Body compressed posteriorly, tail compressed to form a sort of caudal fin or swiming paddle. No loreals, one pair of frontals, ventrals sometimes absent, scales tubercular, eyes small, nostrils superior, fang followed by 3 to 4 teeth, anal bifid.—*Gen:* (*a*) Platurus. (*b*) Aipysuras. (*c*) Disteira. (*d*) Acalyptus. (*e*) Hydrophis. (*f*) Enhydrina. (*g*) Pelamis.

20. *Crotalidæ.*—Body stout and short; head distinct, triangular and broad; deep pit on the side of the snout, pupils erect. A single long recurved grooved fang on each side, usually ovoviviparous, tail with a sort currass, scales keeled. Ventrals present.—*Gen:* (*a*) Trimesurus. (*b*) Peltopelor. (*c*) Callose-lasma. (*d*) Halys. (*e*) Hypnale.

21. *Viperidæ.*—Body stout, short, tail small, head broad and trigonal, no facial pit, pupils erect; fang simple, single and often very long.—*Gen:* (*a*) Daboia. (*b*) Echis.

(To be Continued.)

THE INFLUENCE OF GRAVITATION ON THE CIRCULATION OF THE BLOOD IN HEALTH AND DISEASE.

BY A. L. SANDEL, M.B., C.M., (GLAS.)
CALCUTTA.

ALTHOUGH the presiding and controling influence of a vital principle, renders the action, movements, and effects of living bodies at variance with the laws governing inanimate matter, under very many circumstances this control is not paramount. We know that the influence of gravitation is never for a moment suspended, either with regard to living or inert matter: we can conceive no state of organization capable of maintaining an existence independent of its power. Motion is the effect which renders its operation, as a cause perceptible to us.

Inert matter moves in obedience to the impulse communicated, without offering any assistance of its own.

Living matter, when moved under certain circumstances, possesses the faculty of modifying the impulses, according to the organization peculiar to its mode of existence. Thus each organ finds in this agent an assistant or antagonist, according to the necessity of the action to be performed.

As the true antagonist to the soaring eagle's wing is gravity, so the circulation through all parts of the body is affected, by the influence of the gravity of the blood, but in different degrees, according to their situation and position; and as a general truth, we may assert, that whenever the venous circulation is favored by the gravity of the blood, under ordinary circumstances, congestion will be apt to take place by any change in the accustomed position, such veins having but little contractile power to aid in propelling their contents.

Whenever the upright position is changed for another, the circulation is very perceptibly affected; the veins of the neck become swollen and livid—the carotids pulsate with greater force, and headache and confusion of thought are often induced. These occurrences are still more rapidly and strikingly developed, if the head be placed lower than the body. Some of the severest cases of cephalic disorder have come under my observation, emanating solely from the head being unsupported when in bed by the usual way. This though apparently a trifling circumstance, I am led to consider merits closer attention from us in practice than is usually bestowed, an opinion which a minute's physiological view can but confirm. It is not unfrequently observed in elderly patients who have been from whatever cause long confined in bed, that a set of nervous and cerebral symptoms supervene, and resist every means of relief which may be devised, the perceptive and intellectual faculties become dull and inactive, a state of torpor and apathy of greater or less degree comes on. It is not improbable that the true source and origin of most of the mischief are to be sought for in the altered state of the cephalic circulation, in consequence of the more frequent and longer continued decubitus or position in the horizontal attitude. It is with the head as with the other parts of the body, where they are kept for a length of time in a depending posture. In the chest the stasis of the blood is always more considerable in those parts of the respiratory organs which are the lowest; and it has often been remarked that pneumonia, when it attacks those who have been long bed-ridden, generally affects the lowest portions of the lungs. The mere confinement to bed appears often to bring on cough and other pectoral symptoms among old and infirm patients, which is often irremediable so long as the patient remains in the horizontal position. If the hand has been long hanging by the side, the veins become full and distended, and every ramification can be traced, and the whole volume of the soft parts is greatly increased, by merely raising the arm for some time these appearances vanish. This is one of the best examples of the influence of mere gravity or sanguiniferous accumulation. In the case of the lower limbs the movements are much more limited, and then position is almost always unfavorable, excepting during sleep, to the return of the venous blood; whether we are walking, standing or sitting, the blood has to rise against the force of gravity.

A Mirror of Practice.

A CASE OF PUERPERAL FEVER COMPLICATED WITH HYSTERIA.

BY R. G. KERR, L.R.C.P., (EDIN.)
LECTURER IN MEDICINE, CALCUTTA MEDICAL SCHOOL.

A PRIMAPARA, aged 16, was placed under my care three days after being confined of a male child. The child was born on

the 27th of February, 1892. When I first saw the patient she was in a high fever, temperature 105°6, pulse 148, tongue coated and dry, skin dry, and she had an anxious appearance, had not slept during the previous night, the bowels were constipated, urine very scanty, there was considerable pain on pressure on the lower part of the abdomen. On examination *per vagina* the walls were found burning hot, there was a very offensive smelling discharge, the perineum was extensively ruptured, the os slightly patulous, and her general condition was that of intense anxiety. I ordered eight grains of phenacetin, in one powder, and a mixture of sulphocarbolate of soda, nitric ether, and camphor water every three hours, and a warm water enema to empty the lower bowels. The uterus was washed out with perchloride of mercury solution—1 to 2000, and I dressed the ruptured perineum with boracic lint and salicylate cotton wool. Her temperature maintained itself up to 105·4 all through the whole of that day and night, falling to 103° at 3 a.m., the next day. On the 29th, during the day she had two convulsive fits, her jaws set and there was much difficulty in swallowing, but with a little trouble, she was made to take about half a seer of milk. During the night she was very restless. On enquiry I learnt that she was for the last two years subject to obstinate hysterical fits.

1st March.—Her temperature during the whole of this day kept between 103° and 104°, she had a slight cough. Had another fit in the middle of the day. Pain still continued on pressure at the lower portion of the abdomen. Had a slight attack of fits during the day. The same mixture and *douches* were continued, milk diet, and a little brandy was allowed as she was very weak. During the night she had a convulsive fit which lasted one hour, and she was consequently prevented from sleeping.

2nd March.—The discharge is not so offensive and the temperature fell this day to between 101° and 102°. Was very drowsy during the whole of the day, and was very incoherent in what she said. The bowels were moved after an enema and she passed urine freely. Brandy, milk diet, and treatment continued as before.

3rd March.—The discharge still continues, but is less fetid. Temperature between 99 and 101 degrees. Mixture and washing the uterus was continued, diet the same. Slept fairly well during the night, bowels opened once.

4th March.—The temperature ranged between normal and 100°F. The same treatment was continued. Had a fairly good day and slept well at night. Comparatively better. The injection continued, discharge still slightly fetid.

5th March.—Had a slight rise of temperature in the morning which fell after a few doses of mixture. The cough continues the same, was very drowsy during the greater part of the day, more so after a slight convulsive fit which lasted for about ten minutes. In the afternoon had a slight rigor. Same diet, brandy continued. Bowels opened with two aperient pills, and two doses of quinine sulphas, 5 grains each, were given. Vaginal *douches* still continued, discharge much less but still continues fetid. Had a few hours rest during the night.

6th March.—Temperature the same—99° in the morning, but rose to 103° during the night, the bowels were opened freely once during the day. Medicines the same. Had a marked hysterical fit during the day which lasted for a short time, after which the temperature rose preceded by a slight ague. Had no sleep during the night. Diet and other nourishments the same. Washing the uterus continued.

8th March.—Was very restless during the whole day and night, temperature ran up to 106°F. Had two attacks of convulsive fits. Phenacetin was again given and the vaginal *douches* continued more frequently. Bowels opened by an enema, subcarbolate of soda mixture, and diet continued as before. The temperature fell to 104° during the night, but she did not sleep.

9th March.—Temperature this morning 102·1F, evening 104F. Had another attack of ague at 1 p.m. The same treatment continued, bowels moved once during the day. Had about two hours sleep during the night.

10th March.—Much better this morning. The discharge is free from smell. Temperature in the morning 102·2°F, in the evening 99·8°F. Bowels open, urine passed freely. The same diet and treatment was continued.

11th March.—Still improving, temperature continued the same. The same treatment continued. Was allowed a little arrowroot and biscuits. Slept very well during the night.

12th March.—Temperature normal. Diet and treatment continued. Slept a little during the day, and had a good night's rest.

13th March.—Better, temperature normal. Appetite good. Quinine mixture to be continued. The discharges are now quite free from smell. No pain or tenderness on pressure. Injections discontinued.

Remarks.—The notes of this case are those of a case of puerperal fever as usually occurring. I have given them in detail daily, not on account of the rarity of these cases, but that the reader might have a better opportunity of following me in seeing that it was unmistakably a case of puerperal fever complicated with hysteria. The high fever, and its rise and fall, was in my opinion due mainly to the hysterical condition of the patient after the discharge lessened and became changed in character. The treatment adopted was nothing more than the usual course in these cases.

A CASE OF ERYSIPELAS.

BY R. NUGENT, L.R.C.P., L.R.C.S., (EDIN.)
LATE HOUSE-SURGEON, HOWRAH GENERAL HOSPITAL.

I was called to see a patient, on the 14th of December last, an unmarried female, aged about 25 years, who stated that up to the previous evening, she had been in fairly good health.

This morning, she noticed a patch of redness, about the inner and lower part of right leg and ankle, which was slightly swollen and acutely painful to touch and movement, thinks it probably due to walking bare feet on the cold matted flooring. No history of injury.

Present Condition and History.—The patient is delicate and anæmic looking, fairly well nourished, stated to be of a nervous and hysterical disposition. On examining the leg I noticed a distinct localized inflammatory blush, extending from the dorsum of foot to about the lower two-thirds of inner and front aspect of the right leg, with some swelling, skin dry, hot and tense, tender on pressure and the part pitting slightly, inability to move the limb without giving rise to acute pain, inguinal glands not affected. States that she had a similar attack on a previous occasion, but the pain was not so intense. General febrile symptoms present, temperature 103°F. Tongue furred and dry, loss of appetite. Bowels constipated, but in consequence of having recently suffered from dysentery, she did not wish to resort to purgatives.

I prescribed a mild diaphoretic and saline mixture. The inflamed leg to be fomented, and subsequently covered with a flannel bandage, and advised her to take a dose of castor oil the following morning if necessary.

15th December 1892.—Feels better, passed a fair night, headache less, tongue dry and thickly coated, bowels have not acted, feels a sense of weakness, temperature 99°F, pain in the leg not so severe, but I found the redness and heat considerably increased, involving the whole of the foot and leg, extending to the inner surface of knee and lower part of thigh, swelling of the part also increased. This was not unexpected. I discontinued the fomentations and adopted the course of treatment for erysipelas, a mixture containing tinct. ferri perch. quinine sulph, and mag. sulph. three times a day. The whole of the inflamed area to be painted with the perchlorid of iron, and covered over with cotton wool and a flannel bandage.

16th December 1892.—Is very much better, pain in leg easier, is now able to move it a little, temperature normal, tongue not quite healthy. Bowels acted fairly well. The swelling and redness subsiding, the cuticle dry and harsh. Continued the local application of perchd. of iron and the tinct. ferri perchd. mixture.

17th December 1892.—Progress favourable, some pain and slight œdema about the ankle, otherwise all the inflammation and swelling has disappeared from the limb. Treatment continued.

19th December 1892.—Is able to raise and move leg with very little pain, all inflammatory symptoms nearly subsided, except a small surface below inner malleolus, which is painful yet, but only on deep pressure.

The leg to be bathed with hot water and soap, then dusted with equal parts of oxide of zinc and starch, the whole covered with cotton wool and flannel bandage.

20th December 1892.—Patient well, but feels shaky on her legs.

The cuticle is desquamating. Ordered carbolic oil.

Remarks.—The history of the case shewed that there had been a previous attack of erysipelas, but as the symptoms were not marked, I thought it would be a hasty diagnosis if I concluded that it was another attack, but treating it for ordinary acute inflammation I watched the case, and finding later on that the local symptoms pointed to erysipelas, I changed the treatment accordingly, and the patient progressed towards recovery without a bad symptom.

KIDDERPORE, FEBRUARY 9th, 1893.

A CASE OF HEAT APOPLEXY WITH HIGH TEMPERATURE (109°F.), RESULTING IN RECOVERY.

BY D. ROBERTSON. S.M.D.,
GOVERNMENT HOUSE DISPENSARY, SAIDPETT, MADRAS.

I WAS called to see J. H, a European, *æt.* 26 years, about 4 P.M., on a very hot afternoon in June. He had been witnessing a game of cricket whilst seated under some trees for a few hours previously, and had taken a few glasses of beer. His temperature when I first saw him was 104·6. As he was subject to malarial fever, I thought the fever was due to that cause and prescribed 5 grs. of antifebrin, and put him to bed. In about half an hour's time I was again called to see him. He was insensible and moaning deeply, face very much congested, pupils widely dilated, skin hot and dry, temperature in the axilla 109·2. I now diagnosed the case as one of heat apoplexy. The patient was given half an ounce of antimonial wine in a little water and put on a bed with a waterproof sheet under him in the centre of a large room, two *bheesties* with their *mussucks* were constantly employed in pouring water in a good stream up and down from head to foot on each side, large pieces of ice were also applied to the trunk and kept constantly in motion over its surface, ice also was applied freely to the shaven head. An enema consisting of about sixty ounces of tepid water and two ounces of oil of turpentine was administered but it did not act. An attempt to excite vomiting by tickling the fauces with a feather caused the rectum to discharge its contents which consisted of large masses of hardened fæces. In half an hour's time after the application of cold the temperature fell to 106·4 and continued to fall till at the end of two hours it fell to 102°. The application of cold, except in the shape of iced water to the head, was now discontinued. The patient was however freely fanned by several attendants. At 7 P.M., *liquor epispasticus* was applied to the nape of the neck. At 10 P.M. the patient showed the first sign of returning consciousness by complaining of feeling cold and requesting to be covered. He passed a restless night, vomited occasionally, iced milk was given frequently but he did not retain much of it. Temperature next morning, 101·2, patient had a peculiar dull stupid look and was indifferent to things around him. He made a tardy recovery, his temperature for three weeks ranged from 100 to 101·6, and even after complete recovery the patient had a vacant manner about him for some time.

Remarks.—This case shews that cases of heat apoplexy with very high temperature if taken in time might yield to treatment.

ABREVIATED NOTES ON SUPRA-PUBIC OPERATIONS FOR STONE IN THE BLADDER.

PERFORMED BY ASSISTANT-SURGEON T. M. SHAH,
JUNAGADH STATE HOSPITAL.

Case I.—Samat Tida, H. Child, aged 4 years, stone in bladder for 7 months.

11th March 1891, *Supra-pubic Operation*:—Put under chloroform with a view to perform litholapaxy. Lithotrite No. 6, passed in easily, but it failed to bite the stone, which could be distinctly felt through abdominal wall. Once or twice it was seized but slipped on screwing. The next available lithotrite No. 10, could not pass into the bladder, the meatus was incised and it went through this, but could not pass beyond the pubic portion of urethra. The stone was evidently too large for No. 6, lithotrite to bite. Supra-pubic operation was therefore resorted to. About 3 ozs. of water injected into bladder, an incision made in the *linea alba* about 2 inches in length, commencing above the pubis. All the layers of the abdominal wall were divided one after the other, bladder exposed and secured by catgut passed through its wall. It was rendered prominent by the point of a staff introduced through urethra, the knife was thrust into its cavity and the opening was enlarged from below upwards. The finger was then introduced into the vesical cavity, the margins of bladder and abdominal wall were held aside by hooks. The stone was seized and removed by forceps. It weighed 304 grains, its long diameter was 1¾ inch and short 1¼ inch It was flat, hard, and brown in colour.

After the removal of the stone, a drainage tube was introduced into the bladder, the walls of the abdomen brought together by catgut ligatures, and the skin by silk sutures. Iodoform dressing, a pad and bandage applied.

12th. Temperature 101°2F, pulse 102. Body warm. No marked tenderness. Urine dribbles through tube. Slept well. Bowels not moved. Evening temp. 103·4°F.

18th. Doing well. Urine began to pass through urethra.

25th. All the urine passes through urethra. Wound almost healed.

1st. April.—Child well. Discharged.

Case II.—Vithal Savaji, H. Child, aged 2½ years, stone in bladder for 5 months.

Urine :—A trace of albumen. No pus.

12th April 1891.—Patient is 2½ years old, and appears even a year younger than that. Put under chloroform, bladder sounded, and the stone felt in the neck of the bladder. It was pushed back into the cavity. The smallest lithotrite (No. 6) in hand could not go into bladder. It passed through meatus, but stopped about an inch beyond, that is where the urethra gets under the pubis. In several instances the lithotrite hitches here and goes no further, and this point of urethera is therefore considered the narrowest part of the canal by Dr. Keegan. Supra-pubic operation was therefore performed. Bladder was filled with three ounces of tepid water and a catheter was retained to serve as a guide to the bladder. Incision in *linea alba* commencing from pubis, and carried two inches upwards, the child was very fat. Deeper abdominal muscles were at first mistaken for bladder, catgut loops were passed through wall of bladder, which was rather deep for want of full distension. It was covered with fat which was moved aside, the knife was then thrust in, and fluid ran out. The director was passed in and the finger then introduced. Two stones weighing 22 grains, and 16 grains, were extracted. Catgut sutures were passed through muscular walls and silver sutures through skin. A drainage tube put into bladder through wound, secured in *situ* by catgut, and catheter withdrawn. Iodoform dressing, pad and bandage applied.

16th. No rise of temperature for the last 3 days. The wound healed by first intention. Urine passes through tube. The child progressing satisfactorily. Takes food well. Tube removed.

28th. The whole of the urine passes through urethra. Discharged well.

Case III.—Kamal Dilvash, M. Male, aged 90 years, of Junagad. Stone in bladder for 3 years, an extremely old man with shaking palsy, wrinkled skin and œdema of feet. Is addicted to opium.

30th June 1891.—Put under chloroform and morphia (½ gs.) injected. Lithotrite Nos. 12 and 15 introduced, and stone partly crushed. It was then felt distinctly in the upper part of the bladder, but repeated attempts to seize it failed. The greatest diameter of stone as calculated by the hold of lithotrite was upwards of 1½ inch. After futile attempts of ¾ hour, supra-pubic operation was performed. The bladder was filled with water, rectum stuffed with sponge, abdominal wall was incised and bladder was opened. There was a free discharge of sanguinous fluid from bladder, which then contracted upon the stone and it was extracted by forceps, after experiencing some difficulty. Stone weighed 1040 grains, debris weighed 44 grains, Diameter of stone in length 2¼ inches, in breadth 2 inches. Catgut sutures, drainage tube and dressing as usual.

1st July. Temperature 98°8. Pulse 64. Took some milk last night, looks well, urine passes freely through tube. Evening temperature 99°6F. Pulse 80.

5th. Temperature 98°8, pulse 78. Tube came out, and urine passes through abdominal opening. The upper part of wound has united. Bowels moved twice.

7th. Temperature 99°2, pulse 96. Bowels moved several times during night. Stools are scanty and liquid. No pus or blood, but there is griping, and the urine passes through wound. Slept fairly.

9th. Complains of difficulty in speaking. Bowels moved thrice during night and once this morning; urine passes through wound. Temperature 98°6, pulse 84.

13th. Urine began to pass through urethra. Bowels moved thrice yesterday and thrice during night. Slept well. Discharged. To be an out-patient at the request of relatives.

Case IV.—Khoda Ratua, H. Male, aged 28 years, of Babra district. Stone in bladder for 1 year.

13th July 1891.—Put under chloroform and morphia injected under skin. Sound passed in the bladder and stone detected, supra-pubic operation was performed, 9 ozs of water injected into bladder, and rectum distended with moistened cotton. Staff introduced and bladder opened after securing it with catgut, fluid escaped, finger passed into bladder, stone weighing 420 grains removed, drainage tube retained in bladder, sutures and dressing applied in the usual way. While under chloroform irregular breathing was noticed, respiration recur-

ring at long intervals. Once the breathing failed, and patient was resuscitated by artificial respiration, pupils contracted. On inquiring, these unusual symptoms were accounted for by an over dose of morphia (1 grain) injected under the skin by an assistant. The usual quantity, which I always inject for most capital operations is ½ of a grain. Patient was therefore treated with hot water bottles, sinapism, stimulants internally and injection of ether hypodermically. Atropine was also injected under skin 3 times every hour. Artificial respiration and cold douche were persistently applied, but to no purpose. The patient succumbed after six hours.

Case V.—Bhowan Mulji, H. Male, aged 9 years, of Bilkha, suffering from stone in bladder.

16th July 1891.—Put under chloroform and lithotrite No. 8, was introduced, it went through the meatus, but did not go beyond an inch, stone was thought to be pretty large on sounding. Supra-pubic operation was performed, 6 ozs of water injected into the bladder, which then became prominent in hypogastrium, cotton plugs introduced into rectum. Incisions made in the usual way and bladder opened, finger introduced, wound dilated and an oblong stone weighing 380 grains, 1¾ inches in length drawn out, 3 catgut sutures applied to wall of bladder, drainage tube introduced, and catgut sutures applied to muscular wall, and lastly silver sutures to skin wound. Dressed with iodoform.

19th. All urine passed through drainage tube direct into urinal, and bed is not wet at all. Temperature 99°4F., pulse 108.

20th. Wound dressed for the first time after operation, and found to have healed up by first intention, except the portion through which drainage tube passes.

22nd. Tube removed. Slept well, sometimes urine passes through urethra.

25th. Urine passes from both places. Bowels regular.

26th. Two sutures applied to the opening left by the tube. He passes a large quantity of urine through the wound and a little through urethra.

31st. Urine in stream through urethra and a small quantity through wound.

13th August.—Wound of hypogastrium fully healed up. All urine through urethra. No fever. Well. Discharged.

Case VI.—Metha Musa, M, Male, aged 23 years, from Bharonagar district. Stone in bladder of several years duration.

21st August 1891. Put under chloroform and morphia injected under skin; bladder filled with warm water and rectum stuffed with sponges. Distended bladder was visibly prominent in hypogastrium, incisions made as usual, bladder exposed. The patient was spare in flesh and there was hardly any fat, catgut loops passed through bladder wall which was then opened with knife, finger introduced and stone weighing 136 grains removed, its vertical circumference measured 6 inches and transverse circumference 5 inches. It was oval. Debris left inside was washed out. One catgut suture was passed through vesical walls, drainage tube inserted, horse hair sutures to the muscles and then to the skin. Iodoform dressing applied.

22nd. Temperature 99·8, pulse 114. Urine passes through tube and also through wound. No vomiting. Evening temp. 102°, pulse 130.

23rd. Patient died of peritonitis.

Case VII.—Vira Naja, Hindu Male, aged 26 years, from Chital District. Stone in bladder since 1 year.

21st August 1891. Supra-pubic operation. Enema of warm water in the morning. Put under chloroform and bladder filled with warm water and boracic lotion. Catheter introduced and retained in bladder. Rectum stuffed with cotton. Bladder opened in the usual way by an incision 2½ inches long in the abdominal wall, a coil of intestine appeared in the upper part of the wound, it was moved aside, catgut was passed through walls of bladder, knife then thrust into its cavity, then director was introduced by its side, knife withdrawn and finger passed in; a large tubercular stone felt, forceps introduced, stone grasped but it slipped on trying to withdraw, all water ran out, several attempts to extract it failed, wound was then enlarged upwards and downwards and at last stone extracted, stone was irregular and tuberculated in shape. It weighed 1,120 grains, vertical circumference 6 inches, and transverse circumference 5 inches. The margins of abdominal wall and bladder wound contused and lacerated, catgut sutures to bladder and horse hair sutures to skin. Drainage tube retained in bladder.

22nd, Temperature 100°, pulse 98, complains of pain in the abdomen, tenderness of hypogastrium, passes urine through tube as well as through wound. No vomiting.

24th. Slight pain in hypogastrium, complains of hiccough.

30th. Bowels moved 5 times during night, stools liquid, urine passes through hypogastric wound. The wound is sloughing and gapes open. Urine is highly ammoniacal.

8th September. Bowels moved twice, drops of urine pass through urethra while defæcating. Had fever last night and was vomiting to-day.

10th September. Patient much exhausted. Feels nausea at the sight of food, vomited once yesterday.

11th. Patient getting weak. Bowels not moved, does not take food well, did not sleep at all. Died of exhaustion at 7 A.M.

(To be Continued.)

Cholera a Possible Blessing in Disguise.—Dr. Collingridge of London, is one of those men who can discern a "silver lining" to even the dark cloud of epidemic cholera (N. Y. *Med. Jour.*). He is reported in one of the London papers to have said, in substance: In fact, the cholera is the best thing that can happen to us. If we did not get a scare about once in three years, our sanitation would soon get neglected. Cholera passed our first great Public Health Act. It formed our Port Sanitary Regulations and Authority. These Acts have saved more human lives than ever cholera destroyed since the world began. If the cholera experience of the port of New York in 1892 can do for us something intelligent, humane, or even human, in the way of sanitary legislation, these squalid immigrants, who have excited so much harsh comment, may prove to be angels in disguise to "a plenitude of generations yet to come."

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The Medical Reporter.

CALCUTTA: MARCH 1st, 1893.

CRIMINAL ANTHROPOLOGY.

THOUGH we may not say that criminal anthropology is yet recognized as a science, still considerable and hopeful progress has been made in the direction of attaining this end, for, it is now the subject of scientific discussion, and animated dicussion too, which attention will doubtless weed it of the overgrowth which a too wide generalization of theorists and sentimentalists have developed around it. That scientists have not thought the subject too simple for notice is matter for congratulation to all sober minded men who desire that truth should be manifested and upheld, and criminal anthropology as a subject of inquiry bristtles with apparent contradictions; it is, as it were wrapped up in folds, and every fold contains elements which are full of painful interest to the thoughtful and benevolent. It is the age of faddists and therefore, practical people hesitate to follow light as it glimmers in early development, for fear it should prove the false light of a fad.

We believe as cause and effect are more and more clearly understood in relation to men and crime, the better it will be for civilization, the better for our race. Christ taught, make the tree good and the fruit thereof will also be good, apart from its primary and accepted spiritual meaning, may we not apply it as also relating to mans' psycho-physical being? we think we may do so without affecting a divorce between our application and the primary meaning of the teaching. Is there not an indication here of what our knowledge of the law of heredity is now teaching us? The knowledge we are attaining regarding the impliability of the laws which govern criminal heredity is startling, and if proved to be correct will necessitate the remodelling of the criminal legislation of civilized peoples. Criminal heredity goes much farther in its consequences than the definition of the apt saying "the boy is father to the man" would carry us, in the latter case the beginning and ending is individual, in the former, the beginning is individual but the individuality is often so far back as to be untraceable, the ending involves many, and stretches away into futurity far beyond our ken. What a terrible thing is the heritage of crime.

Year by year, the problem of criminal heredity is being better understood; its limits more clearly defined, that is to say, we are learning to differentiate between the instincts acquired from progenitors and the self-acquired habits of criminality; and now that the subject is becoming more practically appreciated there seems to be ground for reasonable hope that the solution of it, so far as it can be solved, is not far distant; there are certain psychical links in the chain of criminal heredity, so subtle as to defy all our methods of scrutiny and to remain independent and unknowable.

Many workers have labored in this field, chiefly psychologists and philosophers hitherto, but their discoveries were looked upon doubtfully as the mere suggestions of theorists. Psychology is better understood now, and physicians have joined the workers in the field of psycho-physical research; and the great medical schools of Europe and America are deeming the subject worthy of attention; all this has quite changed the aspects of criminal anthropology in the view of the general public, many of whom are beginning to take a lively interest in the solution of the subtle question of the relation of cause to effect in crime; cause springing up far back, even in the loins of a progenitor, and therefore, beyond the reach and control of the criminal.

Judges, and juries, and lawyers, are beginning to understand, that the sins of fathers visiting children in its consequences to the third and fourth generation, and further into the future, is a terrible truth; a truth that has many semblances, the most striking being the descendants position in the malefactor's place; the dock of a criminal court.

It may be that this teaching of criminal heredity has more deeply leavened the people of Paris than those of the other cities of Europe, and hence we find so many acquittals of prisoners guilty of heinous but morbid crimes, probably the Parisians reason that such crimes in their fearful inhumanity show that the mental powers of the criminal were tainted; and whence this taint? from father or grandfather probably, or possibly from the maternal side, therefore in their view the criminal is not answerable to the charge; insanity may not be hinted at, but criminal vitiation by heredity is accepted and this guides the verdict. We have not got so for as this in England, for the more inhuman and morbid the crime the more certain as a rule that the criminal will be punished, hung if hanging is required. Jack the Ripper and criminals of that type have in England no chances of escaping the extreme penalty of the law. In India criminal heredity is not a recognized factor in guiding juries and judges in decisions and meting out punishment, insanity is accepted as a plea, but no question is raised whether it is the result of heredity or from cerebral disease arising in the person charged with guilt. We are very slow in India in taking up new thoughts on any matter, or being cognisant of and following new light. Conservatism in some things is good, especially in matters of conscience, over-conservatism is bad.

Physicians in charge of jails and penitentiaries tell us, and to our view have established their statements beyond the reach

of criticism, that criminal instincts are inherited and that, criminals transmit this dire legacy to their descendants with added power and but rarely with diminished power: this is the evidence of experts, and these medical men from the position they occupy are experts who have experimental qualifications of such a degree as to give their evidence the greatest weight, and induce its being received with respect by their brethren and by layman. We wish the subject of criminal heredity awakened more of interest in medical men in India. Europe and America manifest a living interest in the matter, and medical men and laymen there, are zealously working, endeavouring to so link their knwledge by evidences already examined as to make a completed chain which, would satisfy the tests of science and be accepted by scientists, when laws to govern procedure of treatment could be formulated. We are very far back in India in all matters regarding criminal anthropology, the existence in the land not very far back of Thugs and their history of inherited criminal instincts notwithstanding.

That criminals (of course we mean habitual criminals, lapses into crime being possible for those who do not inherit criminal instincts), constitute a distinct and numerous class in every civilized community will be accepted generally, but fortunately, those who have to control this class in Europe say, that they display easily recognizable characteristics. We do not know if our police authorities can give us a similar assurance, we hope they could, though they have given us no such assurance as yet, however, what the supervisors of the peace of towns in Europe say, should go far to assure us, that by means of the easily recognizable characteristics which mark criminals, many crimes are prevented, being nipped in the bud by the detective agency of the police; on the other hand, it is unpleasant news that so large a class of every civilized community consists of evil-disposed people, who are a standing menace to the well-disposed and orderly citizens; and in this connection the serious question to be answered, is what is to be done? How are the non-criminal and peaceful people of a community to get on with such a menacing evil in their midst? We really do not know, except we go on as we are doing with our police and police courts, as we have not yet sufficient light thrown on the subject to permit of any fixed strenuous advocacy for the remodelling of existing criminal laws; though there are some people who go so far as this in their advocacy of it. No one has yet been able to manipulate a workable plan, which would serve to eradicate, even in time, the criminal tendencies of these many black sheep of a community. Attempts have been made and are continued to mitigate the evil, but we need fuller knowledge of the subject before the problem of criminal anthropology can be solved or be within measurable distance of solution.

A good practical plan it would be, if only we had an assurance of being able to carry it out as completely as it requires, and tending to the preservation of order and peacefulness in a community, to deal with criminals primarily at least, by dispersing them under control, and by preventing them entering into those sexual relations which would reproduce their kind. Truly a hard way of dealing and painful alike to the sentimentalist and the benevolent, but what is to be done? We segregate lepers or advocate their segregation and this is equivalent to the dispersion of criminals suggested, for these lepers so dealt with, are removed from all free intercourse with the healthy members of a community; and we would prevent the leprous from entering into marital relationships; both the sentimentalist and the benevolent commend this course of procedure, then hard though it may be, would it not be right to adopt a similar method in dealing with the psycho-physical leprous?. The French believe that this method of prevention is the only way open to deal with the criminal class and for the benefit of the law-abiding members of a community. Schooled in this line of thought, they have strengthened their partiality for such a plan, by observation and induction from the facts of experience; till now, nearly all France accepts this teaching.

The police system of Paris includes in its *personel* medico-psychological experts, whose duty it is to examine in the morning the persons arrested over night; and a most commendable plan it is. The result of such examination often is to relegate to the asylum persons who otherwise would be placed before the magistrate and sent to prison. The records of the Paris police show many striking instances where such timely intervention saved the victims of cerebral disease from being compelled to herd with criminals. In such cases the temporary lapse from mental soundness would have been nurtured and probably stereotyped, through the influences of the foul moral atmosphere that invariably lingers within a jail, and by association with practised and hardened criminals. It will thus be seen that the French idea of restricting the devolopment of the criminal class is properly, early unital segregation (apart from solitary segregation or solitary confinement), where possible, and the prevention by this means of a first default arising from inherited criminal taint becoming the habit of life; they acknowledge that the predilection in such cases for certain crimes is often so strong as to be unresistable.

The medical profession in Italy, chiefly in the sub-Alpine and Naples District, are also interested in criminal anthropology as understood by modern schools of thought, and they are utilising their unique opportunities of observing and analysing crime, and are trying to link on a scientific basis crime with its cause, that is, its first cause or origin. The medical men of Vienna are also laboring zealously in this service, chief among them is the distinguished neurologist and alienist Dr. Benedikts, and to whom we owe mainly, the now generally accepted principle of studying criminals in different types; which is as we may say, the foundation upon which we may gradually build up material by a method of induction, and then by building up a little farther, and strenghening and widening the foundation by the admission of allied principles, we would probably establish criminal anthropology on the plane of the sciences.

There are three principal factors connected with crime which criminal anthropology must recognize. The heredity of the criminal is the first and most essential, the second is the state of the criminal's brain, its reactive and resistive qualities, and then the criminal's environment must be allowed its proper consideration, with its immediate and permanant effects. Taking cognisance of heredity is really investigating the past history of the criminal's family, chiefly the neuropathic history, and the transmutation of its inherited diseases into other diseases in offspring, and this inquiry embraces also the second point, which however, requires further special consideration. Bad food or malnutrition, which indicates a life of privation, coupled with that sense of insecurity which is the portion of the lawless, and which originates nervous tension, come within the legitimate province of criminal anthropology. Some investigators state, we mean those who have gone beyond the student's place, that atavism and reversions of many sorts are subjects that should not be shut out, as they serve as a key, to open the lock of difficulty, which individual and family cases of morbid criminality present.

The question of the essential qualities of the brain is a point the importance of which cannot be over-estimated, and the inquiry into which covers a wide field, and the more interesting because of the difficulties presented here to the student of criminal anthropology. The receptivity of the brain and its reactive power, its resources in self-control, its power to withstand pain, fear, temptation and similar trials of the moral sense, all these cluster around this investigation and are correlated to the main question. The student of criminal anthropology must possess patience, intelligence and intuition, and must know something of logic, the better logician he is the greater will be his success in the study of the subject.

It is in this field that the Italian school of criminal anthropology has gathered the most valuable information, assisted thereto by the present law of the land, for in Italy capital punishment is abolished, thus furinshing the student with a typical class of criminals and the means of studying them *intus et in cute*. In Florence Professor Paolo Mantegazza has with the aid of her public spirited citizens founded a medico-psychological museum, which is doubtless a valuable aid to research in and study of this subject.

We must have information regarding the atmosphere in which the criminal has been brought up, we mean, what have been the social, mental and moral influences he has been subjected to, in other words, what has been his environment from childhood up to the period of his lapse into crime. Religious influences need to be discounted, for these influences could have had no place in the life of one who can be considered a fit subject for criminal anthropological inquiry. A searching investigation of this section of the subject is most essential.

A marvellous apparatus is the brain of man, for there are tracts of the brain cortex so prepared, if we may say so, as to fit them for mental processes, which when evolved in certain lines of thought and made apparent to other men, we reckon as a guage of the power of the brain producing them and thus we say, one man is a deep thinker, another's thoughts have the beauty and attraction of strength, a third is a shallow thinker, and so on, all so many expressions of our estimate of brain power. And it is here, in these tracts, that the future character of the man or woman, criminal or otherwise, germinates and grows. It is in this field of the brain that hereditary qualities are impressed. It is physiologically the most powerful part of man. "Have we among us men and women whose mental cortex is of such a quality that in its ordinary environment the conduct of its possessor must necessarily be anti-social and lawless? and if so, what anatomical physiological and psychological signs are there to distinguish this criminal cortex and its possessor?" This is the crucial question that confronts the student of criminality, and it is a question by no means easily answered.

Italian students of this subject however, say, and some German students coincide with them, that such signs do exist and that they are easily discernible, that is to say, that before the criminal was so in fact he was one in mind and spirit, and there are perceivable signs of this embryo stage. Can we say that this is a logically ascertained fact and mould our conduct in dealing with criminals accordingly?; we believe not, we have a natural hesitancy in accepting anything dogmatically in the present state of our knowledge on the subject. We would rather say it seems jumping to a conclusion, or a too wide generalization based on isolated cases. We are all of us inquirers simply, though valuable truths have thus far been discovered, but these truths need intermediary links to connect and fit them into a chain, and thus make a system of reasoning, which would be the more acceptable if illustrated by experimental conclusions. At present those who shrink from accepting dogmatic statements founded on theory, which itself is founded on an incomplete chain of reasoning, are right. We cannot be too cautious or investigate too minutely such a subject.

In our opinion, all that the medico-psychologist can do, is to gather evidence, and accept only that which the prescription of scientific tests allow; yet, we should not be blind to what life seething around us teaches in its normal and abnormal phases; we should utilize only such facts, obtained in this way, as will permit of a sound induction being based on them.

It is now generally recognized that criminals, we of course mean those who have a sort of natural aptitude for crime, fall far short of the standard required for the normal human being, in brain, in body and in mind; now this is a fact that will permit us to build many a sound induction on, only we must not let sentiment or zeal lead us, so as to make our labor faulty and fruitless. The true humane view of the question leaves us no choice, but to throw the responsibility for the degeneration of so large a number of our race, on our social system, and therefore, each of us being units of this system, should use every effort to create a healthier

social system, or if this is not possible, surely we are bound to see that the burden of punishment fall not too severely, or unjustly, on those whom society has in a great measure made what they are. Our efforts should tend to make crime as preventible as disease.

THE INDIAN MEDICAL SERVICE, AND THE DEPRECIATED RUPEE.

As far as we are aware, the officers of the Indian Medical Service have not yet submitted any memorials on the subject of the depreciated state of the rupee. They have refrained from pressing to the notice of the Indian Government hardships which they in common with other departmental officers have had to bear on account of the serious loss in exchange. We do not however believe that this inactivity is due to any want of interest in so important a question to them, affecting those especially who have families at home or out here with them, but we believe, it has been due to a sense of respect to the Government, which has prevented them from representing the hardships under which they must personally of necessity be suffering, looking forward perhaps to the time when matters would mend.

This quiet forbearance has been we believe gradually developing into discontent of appreciable importance, as evidenced by communications which we have from time to time received. The suffering this state of affairs entails is of course common to all, but it is only with the Indian Medical Service with which we are at present directly interested—a service which has been invaluable to the country. Even in the present time all the most important medical posts are held by its members, and whilst we must admit, that the State is embarassed and already suffers from financial difficulties, engaged also with the anxiety of other more serious matters and the cutting down of expenditure, yet we cannot but feel that the Indian Medical Service is one which should be looked after, and that the shears of retrenchment should not be unsparingly used as has lately been done. Although we look forward to the time when the Indian Government will bestow some of these appointments to local men, there are many considerations which must at present weigh heavily in deciding whether Government should not make some effort to pay higher or in equivalent of English money. For, while the rupee is down at one shilling and two pence, the question of furlough, home remittances, provision for old age, education of children and the attractions which the Service offers to intending candidates at home, will be matters to be considered, from the fact that those entering it do so to spend their whole time in this country. That it has commanded heretofore the best men in the market there is no doubt, whilst if matters continue as they do, we do not think the State can expect men of the same stamp to compete at the tests for admission, and should the condition of affairs not improve and the rupee still progress in depreciation, the only result we can look forward to is, the reduction of the *morale* of the Service.

Medical News Letters.

LONDON LETTER.

[From our own Correspondent.]

National Society for the Employment of Epileptics.

This Society has been started to establish a colony for epileptics, who are able and willing to work in the intervals between their attacks. According to a Report issued by a special committee of the Charity Organization Society, 2 per 1000 of the population of Great Britain are epileptics, and of these about one half are sane, so that there are about 39,000 sane epileptics in the country. All charitable institutions refuse to admit epileptics, the result being that these poor people, after losing their work on account of their affliction, drift into the workhouse. Two small homes have been started, one at Liverpool, another at Godalming, but the accommodation is very small. The epileptic colony at Biclefeld in Westphalia is to be the model on which the Society will work, it is found there that epileptics live together and work in comparitive happiness, and the association in one community of a number of epileptics, instead of being harmful, induces feeling of contentment, in place of the gloom and depression, which isolation from the ordinary pursuits of life too frequently develops in them.

Arrangements have been made to purchase about 100 acres of land, and to erect thereon a number of cottages and workshops; each cottage is to contain from 10 to 20 epileptics. The Lord Mayor of London presides at a meeting in favour of the scheme on January 25th, and the Lord Chancellor, Sir Andrew Clark, and Sir J. Crighton Browne are strong supporters of the movement. I believe that the actual originators are Dr. and Mrs. David Ferrier.

Royal College of Surgeons.

This year being the 50th anniversary of the institution of the Fellowship, it has been decided to celebrate the event. H.R.H. the Prince of Wales has announced his intention of being present at the delivery of the Hunterian Oration by the President Mr. Thomas Bryant on February 14th. I believe this is the first time that His Royal Highness has attended a lecture at the College. In July, a general meeting of the Fellows will be held, and a dinner will be given.

New Operation for Undescended Testicles.

At a recent meeting of the W. London Medico-Chirurgical Society, Mr. Bidwell related three cases on whom he had operated for undescended testis by a new method. One patient was an adult and had double undescended testis, the other two were lads, each with only one organ missing. The incision is the same as for the radical cure of hernia. The testicle is if possible squeezed out of the inguinal canal, if impossible the fibres of the external oblique are divided. The tunica vaginalis is then opened, and divided just above the testis. If a hernia be present, the upper end of the tunica vaginalis is dissected up, and after being tied at the internal ring, is cut away. The fibres of the cremaster having been divided, the structures between the vas and the epididymis are carefully divided

with the point of a knife; in this way the testicle becomes inverted, the vas entering at the top instead of at the bottom of the epididymis. The vestigial remains around the top of the normal testis are now the lowest point. In doing this the spermatic artery and veins are divided, but the artery of the vas is carefully preserved. By the inversion the testicle hangs 1½ inches lower. A finger is then thrust down to the bottom of the scrotum, and a mounted needle armed with a silken thread is passed through skin on to the finger. The thread being withdrawn from the needle, the latter is passed through the vestigial remains at the bottom of the inverted testis, and the needle having been rethreaded is withdrawn through its original puncture. The inguinal canal is closed by Macewan's method, the divided fibres of the external oblique and the skin are united with sutures. The two ends of the silk thread attached to the lower part of the testis are knotted outside the scrotum, and are attached by means of a piece of elastic drainage tube, and a safety pin to the cross bar of a wire cage specially made for the purpose. This cage is fastened to the body by tapes, and while firmly held in position causes no discomfort to the patient.

The wound is dressed with cyanide gauze, and the whole cage enveloped in an antiseptic dressing. The elastic tube is tightened each of the first two days, and the extension is kept on for a week or ten days, the cage is then taken off and the thread withdrawn from the testicle.

He pointed out that the vestigial remains on which traction is made, are well suited for the purpose, because the part is inextensile and will not be damaged if the thread cuts through. He admitted that arguments had been advanced against the retention of these undeveloped organs, but he pointed out that, even if it should prove functionally useless, the presence of a second testicle in the scrotum was conducive to the patient's peace of mind, and might be of great importance in the case of a young man desirious of entering the public service. He referred to the work of Cheyne, Lucas-Champoniere, Tuffier and Keetley on the subject, and concluded that in no case of hernia complicated with undescended testis, should that organ be removed unless manifestly diseased, as with antiseptic precautions, no additional risk was involved in bringing down the organ into the scrotum.

TREATMENT OF MYXŒDEMA.

In my letter which appeared in December last, I mentioned that two cases of Myxœdema were shewn at the Clinical Society, which had been treated by hypodermic injections of fresh thyroid juice. Since then several papers have appeared upon the subject, the best of which, by Dr. Hector Mackenzie, was published in the *British Medical Journal* for October 29, 1892. This Physician considers that hypodermic injection is unnecessary, but that the fresh thyroid can be given quite as well by the mouth. A sheep's thyroid is obtained, chopped up, and can be eaten between layers of bread and butter. Of course it must be uncooked; half a thyroid should be given at a time, the other half being given three days later. There is no doubt that considerable improvement follows the method of treatment, and it has now become recognized, as the only way in which the cure of a case of myxœdema can be brought about.

CHOLERA.

I regret to say that the cholera is still at Hamburg, nearly three fresh cases a day being recorded, but fortunately it appears to be of a mild nature, as there are few deaths. No cases have occurred in England since the summer, and so far the scourge of the last two winters, namely the influenza, does not appear to be attacking us this year.

Transactions of Medical Societies.

THE CALCUTTA MEDICAL SOCIETY.

THE Twelfth Meeting of the Society for 1892, was held at the Medical College Hospital theatre on the 14th December, Dr. Koilash Chunder Bose, the President, in the chair.

Mr. G. N. 'Xavier, medical student, with Dr. Birch's permission read the notes of—A case of Asthenia.

Surjah Parshad, a Hindu boatman, resident of Calcutta, *æt* 25 years, was admitted into the 1st Physician's Ward on the 29th ultimo, quite unconscious and emaciated, with a history of prolonged fever. He was weak and anæmic; had a small, compressible pulse, and feeble heart sounds, tongue moist but coated, no family history could be elicited. During the previous fortnight he had suffered from attacks of quotidian ague, also from excruciating headache on the right side, but continued his usual work, living only on tea. He was ordered frequent small quantities of milk and sago, also a stimulating mixture. On the day after admission the patient was moribund and appeared to be dying, the pulse scarcely perceptible, and the respiration only two or three gasps per minute. A hypodermic injection of liquor strychnine ♏v. was immediately given and he was fed every hour. An improvement in the pulse, respiration and temperature soon followed; but the patient was in a mild delirium. On the third day after admission he was still unconscious, and was fed through a nasal tube; but towards the evening he regained his consciousness, and from that time made an uninterrupted recovery, and was discharged on the seventh day after being admitted.

The President thanked Dr. Birch for allowing this very interesting case to be brought before the Society, as it contained many points of very great interest.

Dr. M. N. Chatterjee with the sanction of Dr. Sanders, read the notes of—A case of Pelvic Abscess, in the case of a Hindu male, aged 35 years, who was brought to the Mayo Hospital on the 8th of August last, suffering from obstruction of the bowels for seven days.

The history shewed that 20 days ago the man had indulged in *puries* and sweetments, and two hours later, he vomited almost the whole meal.

On the same evening he took some native physic, given by a *kaviraj*, which operated ten times during the night. On the next morning he had a severe griping pain which gradually increased, which in a few days became almost

intolerable, and brought on fever with shivering. The fever continued for two days and then left him; pain still continued, though less severe. His bowels were very irregular after the first day's motions, only one stool every third or fourth day for twelve days; the urine was scanty and was passed in drops. From the seventh day of the attack there was a fulness about the lower part of his abdomen, which slowly increased till he came to the Hospital. Had a very poor appetite, and he used to live only on milk.

On Admission.—Was emaciated and jaundiced, pale and anxious; eyes sunken, tongue coated brown, appetite dull. There was no enlargement of the liver, but spleen was slightly enlarged. The bowels had been constipated for seven days. Vomited once on day of admission, the vomited matter being the milk which he had taken a little while before. Passed urine in drops; which was very scanty. Heart sounds weak, pulse weak and frequent. Abdomen much distended; there was a smooth rounded swelling extending from the umbilicus to the pubes. It was tense and fluctuating.

The diagnosis of the case was extremely difficult. The absence of any stool for seven days, might lead to suspicion that the man was suffering from obstruction of bowels. Again the presence of a fluctuating tumour with the history of dribbling of urine, suggested that the case was one of retention of urine. A silver catheter was passed into his bladder which went in very easily, but only a couple of ounces of clear urine came out without affecting the size of the tumour. A long flexible catheter, was then passed, and only a few drops of urine flowed out. I then aspirated, and on turning the stop-cock pus freely flowed out. The nature of the case was not made out till the abdomen was opened and the exploring finger introduced into the abdomen, which was done on the next day. Fifty-six ounces of pus were drawn off, and the tumour almost disappeared. The pus had an offensive smell, the patient himself could not bear it.

The next morning the patient was put under chloroform; I made an incision about two inches long in the *linea alba*, midway between the umbilicus and pubes, about 20 ounces of pus came out through the opening. With the index finger I felt the bladder, it was healthy and empty. The rectum was then examined; but I did not find any communication between it and the abscess. A thick drainage tube was put in, the cavity was washed with Condy's fluid, and an antiseptic dressing was applied.

Progress and treatment.—Patient improved for seven days. The odour in the discharge lessened, appetite improved. Temperature normal in the morning, rose a little towards the evening. On the 7th day, while urinating, patient felt something give way, and urine soaked the dressings. But this wound closed in 8 days, and the whole of urine came through the natural passage. Soon after, erysipelas set in on the 10th day. It spread half way down the thighs, and about 2" above the umbilicus. This was checked by the usual remedies, and the patient made a good recovery after which he improved. The abdominal wound closed up on the 22nd day, and the patient was discharged from hospital.

My excuse for bringing this case before the Society is its rarity. Most of the standard books on surgery do not treat of it at all, saying that pelvic cellulitis and pelvic abscess are subjects concerning midwifery and diseases of women.

DR. JOUBERT.—The case was rare and very interesting; he was inclined to think that it was probably a case of pelvic peritonitis, and not pelvic cellulitis, that is, the mischief was inside the peritoneal cavity. As regards the smell of the pus in pelvic peritonitis, the pus was usually very fetid when associated with inflammation of the intestines.

DR. RAYE.—The obstruction of the bowels might have been due either to the mechanical effect of pressure of the accumulation of pus on the rectum, or caused simply by peritonitis. In his experience symptoms of obstruction are common in peritonitis, and the symptoms of peritonitis are frequently subacute or latent, there being very little abdominal tenderness present.

DR. SARBADHIKARI then read his paper on—A case of Ovaro-Hysterectomy, and exhibited microscopic sections from the cervix uteri—

A Hindu lady, aged 25, came under treatment nine weeks ago. She has had four children. She had been well till about ten months ago when her troubles began, and her courses became very irregular. A constant watery discharge often tinged with blood, at first scanty, but gradually increasing and getting fetid, alternating with leucorrhœal discharges, lasted almost throughout the month from period to period. After three months she began to experience severe shooting pains in the hypogastrium and in the loins, which often kept her awake at night. Extreme nausea and vomiting set in, and soon became distressing. The quantity of blood in the discharge rapidly increased and the discharge itself became very fetid. Her appetite fell off much, and she began to emaciate perceptibly. Miss Hamiltion was consulted, who diagnosed cancer of the os and cervix, and performed the operation of erasion. It gave relief from the pain and nausea for about a month or so; the hæmorrhage also ceased for the same period. At the end of that time all her troubles returned, and she became much worse. Miss Hamilton again saw her, and advised the patient to submit to the operation of hysterectomy without any delay.

Nine weeks ago she came under my treatment. I found the hypogastrium very tender, the os very much thickened, rigid and dense, but quite movable. The external os was much everted and covered with large dark red lumpy granulations, which bled freely. The posterior lip was much eroded and was covered with granulations. The uterus felt heavy, but no enlargement above the pubes could be detected. The sound was not passed at the examination. The discharge was of sanious serum, and very fetid. The appearances were those of a cancer of the os and cervix. I hesitated to accept the conclusion for a while, and I decided to wait a week or ten days, and adopted in the mean-

time the ordinary treatment for an ulcerated os. After a week I found no alteration either in the appearances or in the symptoms, the pain was intolerable, the hæmorrhages severe, the nausea also was distressing. I now decided to operate. On the morning before the operation, Dr. Shome kindly saw the case with me, and pronounced it to be cancer, and one for operation.

On the 24th October, the patient was put under chloroform. The vagina was washed out and the bladder and rectum emptied. I opened the peritoneum after the usual dissection, by an incision about four inches long, beginning from half-an-inch below the navel and ending within half-an-inch above the pubes. The intestines had a great tendency to bulge out of the wound, being distended with gas, but they were prevented from doing so by being packed up in large warm towels which had been boiled in water for two hours and then thoroughly wrung out in carbolic lotion. The uterus was soft and of the size of a cricket ball, a feel altogether different from that of the cervix which was very hard. The viscus was got hold of by a strong pair of volsellum forceps, and was made to emerge at the wound. The utero-vesical and utero-rectal folds of peritoneum were partially cut and then teased through, a catheter being in the bladder all the time as a guide. The broad ligaments were next traversed by strong needles on handles armed with loops of thick catgut, and securely tied in three sections, and then together. I removed the ovaries to save trouble in future, owing to a minute cyst which was found in the left one. The vagina was then transfixed half-an-inch beyond the os and tied in two sections, and then together by thick carbolised catgut. The mass was then cut away between the ligatures. The pelvic cavity was then wiped dry with similarly treated towels. The peritoneum was accurately stitched with a continuous suture and the stump was brought out at the lowest angle of the wound. The external wound was brought together by silver sutures. The stump was thus treated extra-peritoneally, no drainage tube was inserted into the pelvis. The operation was done with strictly antiseptic precautions.

Progress.—Patient made a rapid recovery from chloroform. The temperature was normal for the first seven days. The greater part of the wound united on the seventh day, when half the stitches were removed, and the remainder on the thirteenth day. The deep dressings were changed on the fifth day. On the seventh day the dressings came off at night, and the wound was open all night without any body observing it till the morning. The next day the temperature rose to 100° F. but there was no tenderness anywhere even on deep pressure, nor any puffiness in the flanks or above the groins. The rise of temperature lasted for five days, the highest temperature being 100·8° F. After this she made an uninterrupted recovery.

The diet consisted for the first fifteen days of soup and a seer of milk. Afterwards chupaties and fish were given. The bowels were confined for the first six days after operation and had then to be opened by a glycerine enema. After this there was no trouble.

On examining the mass after removal, I found a small fœtus about seven weeks old. It had the following characters :—It was in length 1¼", weight 80 grains. The head, apertures of nose, mouth, eyes, and ears, distinct. No eye-lids; the hands, forearms, thighs and legs, were also distinct. Legs and feet quite near anus. A distinct umbilicus was attached to the cord. No distinct placenta. From the microscopic section the disease is epitheliomatous; confined to the cervix for about 1¾" above the os. The body of uterus is free from the disease, as the second microscopic specimen shewed.

I have brought the case before the Society for the following reasons :—To point out that a woman having developed cancer at the early age of 25, which is rather rare. To bring forward a case of extra-peritoneal treatment of the stump with success, without a drainage tube in the pelvis. And I should like to know whether, even if a six or seven weeks' pregnancy could be diagnosed, excision of a cancerous womb would not be the right thing to do, seeing the risks which the mother would run if the pregnancy were to be allowed to go on to the full term.

DR. JOUBERT.—He congratulated Dr. Sarbadhikari on the successful result of the operation. The extra-peritoneal treatment of the stump resorted to in this case was he said correct. The occurrence of cancer of the cervix uteri in young women under 25 years of age is not so rare as is supposed to be. As the uterus was in a healthy state, it perhaps would have been right only to remove the cervix.

DR. RAYE.—He was of opinion that the uterus and cervix should be removed, and said that the occurrence of pregnancy in a cancerous uterus raised two questions. Should the pregnancy be allowed to go on to full term? or should the uterus be immediately removed? He congratulated the operator on the successful outcome of the case, and said it was very gratifying to find him so early in his carrer undertaking such a serious operation.

The microscopic specimens were then handed round to those who were present for examination. The meeting came to a conclusion, by the President thanking Dr. Sarbadhikari for the great interest he had taken in the cause of medical science in India, and agreed with Dr. Raye in saying that, it was very gratifying to find so young a graduate undertaking so risky an operation.

THE first meeting of the Society for the year 1893, was held on the 18th January, Dr. Bose the President in the chair.

Dr. O'Brien, the Second Surgeon, shewed a case of peculiar skin disease in a native male. He had been suffering for some time, his body was covered with a well defined horny excrescence. There was no history of syphilis, no pain or other sensation of discomfort. Some members of the man's family had suffered from a similar affection. Dr. O'Brien said, he could not find a description in any of the text books applying to the case before the Society, the nearest approach being that by Anderson, who describes *cornea cutanea* which was horny in character, this case was more like one of ordinary warts scattered on the whole of the body.

The first paper to have been read was that by Dr. Birch, on forty cases of liver abscesses, but he regretted very much that he could not get the materials of all the cases together to put before the Society, owing to pressure of work. Dr. Green, at his request had just that evening collected information regarding a few cases only, which he would make use of. He then gave a very interesting and graphic account of the whole of his experience in this disease. His success was 68%. He knew of several cases from *post mortem*, in which he thought the treatment could have been modified by resecting a rib above the diaphragm, there was of course difficulty and surgeons were aware of this, but in old standing cases he thought it was justifiable that the case be handed over to the surgeon. Very many liver abscess cases in his experience were due to a free use of alcohol, and deaths were generally due to bursting of the abscess invariably upwards into the lung, followed by contraction of the original cavity and a rapid destruction of the tissue of the lung. He thought therefore it was advisable to open directly into the lung and thus drain out the pus, as he had endeavoured to obtain pus at the liver, but could not do so owing to the shrinking, and he thought the suggestion he made was important in many ways.

The point to be selected for puncture, he said is one inch below costal margin and one and half inch to the right of the *linea alba*, and it should not be made unless it was certain that the liver margin was above it, if not the operation should not be undertaken. Why the pus does not find its way into the peritoneal cavity was amazing. The space best suited for puncture was between the eighth and ninth ribs.

The tube best suited was a wide stiff one, and no counter-openings were advisable. Washing out these abscesses was dangerous although they were frequently done with no after bad effects. Strict antiseptic precautions were necessary, iodofrom was very useful on the external wound, and dressings should be changed about four times on the day of operation, and then once a day.

The diagnosis of these abscesses was very difficult and conflicting, the symptoms present were so likely to be mistaken for other affections, but the practitioner who has had much previous dealing with these cases recognized them at a glance. Dysentery he said was very unfavourable, and he thought hectic was invariably present. A peculiar fullness felt by the patient was very indicative.

One of the dangers in opening these abscesses was hæmorrhage, and he only remembered one case in the General Hospital which he saw with Dr. Harris, where the patient died very soon after the operation. He had heard of a case where incision was made to the right of the mammary line anterior to the axillary line. After the pus was removed by aspiration, out came a piece of omentum and the surgeon who was immediately summoned did a laparotomy, but the patient died of peritonitis from escape of pus into the peritoneal cavity. Dr. Birch then said that adhesions did not exist in the vast majority of cases of liver abscess between the abdommal parieties, and therefore it was difficult to account for the absence of peritonitis. He had not used the director in a particular case, but simply the bistoury, after which he tried to introduce the director. Dr. McConnell, who was present suggested, that the opening should be enlarged and a drainage tube introduced. After the opening was enlarged and the finger introduced, he found no adhesions for one inch all round. The case was afterwards dressed in the usual way with a drainage tube and made a good recovery in six months, confirming that no adhesions existed between the abdominal parieties and the surface of the liver.

Resection he thought was a severe operation, but all the cases had done well in the Hospital. He remembered a case of Dr. Roy's in which Dr. McLeod had resected. The patient did well. It was a case in which there was no enlargement of the liver upwards. He mentioned this particular case owing to a very curious circumstance connected with it. The pus here had a very strong smell of sulphuretted hydrogen and discolored the canula. The abscess was deep seated, it was opened with very great difficulty by him on the day before, and he took out 12 ounces of pus. After describing a few other cases, Dr. Birch referred to the number of times aspiration could be performed, and referred to Dr. Lawrie's cases at Hyderabad, where aspiration was done as often as 45, 27 and 25 times with extremely good results. Dr. Lawrie he said recommended repeated aspiration, and as his reports were very reliable, his advice could be followed with safety. A case of Dr. Adie's was then mentioned; in which hepatic abscess existed in a child 2 years old, discovered after death, he mentioned this as it had an important bearing on the question of age.

Dr. O'Brien.—He had met with two cases and had put in tubes. One of the patients bled and died, the incision was at the point of election. At Burdwan, he had a case in which an opening was made sufficient to introduce the forceps and it hit upon the hepatic vein and opened into it, and very great hæmorrhage followed. Dr. Birch's experience had been very satisfactory and it would he said be very interesting to know how the knife should be directed without any danger.

Dr. Crombie.—He referred to a case he had opened which was followed by free bleeding, but was very soon arrested by the pressure which the side of the drainage tube exerted on being introduced.

With regard to treatment by aspiration, he had a number of cases whilst at Dacca, and referred to the case of a Brahmin, who was aspirated four times, and he recovered. The aspiration was done on the pain and fever reappearing, and there was no further collection of pus after six weeks. In another case a single aspiration was sufficient, and was satisfactory. Dr. Crombie said that he had read Dr. Lawrie's paper and intended trying the procedure again.

Dr. Murray.—He mentioned a case which had come under his observation in the Howrah Hospital in which hæmorrhage had occured after puncture. There were no constitutional symptoms, he punctured between the eighth and ninth ribs and nothing but blood escaped. On the opening being enlarged pus flowed out freely. The case progressed well for six weeks, when lung

trouble in the form of pleurisy and pneumonia at the base was followed by much hectic. Lastly he discovered a small abscess at back of liver near the spine, encroaching on the pericardium and lung. In spite of all treatment the patient died and the *post mortem* disclosed a very deep seated abscess, and he regretted not making a counter-opening, which if done would have succeeded in thoroughly draining out the pus, and the patient probably would have recovered.

Dr. Green.—If the sheath of the rectus was stitched to the surface of the liver after the incision, much trouble might be avoided.

Dr. Caddy.—Stitching the surface of the liver thus, was useful in cases of hydatids where there were no adhesions. Repeated aspiration and the injection into the cavity of a solution of ether and iodoform was followed by good results. He had lately read of a number of cases thus treated reported in the *British Medical Journal*.

Dr. Murray.—He enquired if it would be a justifiable procedure to make a counter-opening if a deep seated abscess like the one in his case was discovered in time.

Dr. Birch in reply.—He thought it was very extraordinary why bleeding should have followed in the cases cited by Drs. O'Brien, Crombie and Murray. The liver he said closed as soon as it was cut, and this was very puzzling why it should be so. Hydatid fluid of course was very irritating and therefore great caution was necessary. Stitching had been done in Calcutta by Dr. Leahy before he opened the liver, and the case recovered. In all cases a tube which would not collapse should be used, and with regard to Dr. Murray's enquiry, he thought it would be quite justifiable to make a counter-opening.

The President thanked Dr. Birch for the great interest he had taken, and referred to the interesting discussion which his remarks brought out, and said that the Society was much indebted to him, for the new light thrown on this very important subject.

Dr. Crombie then read a paper on the value of chloride of calcium in pneumonia. He said that the circumstances which led him to use it first was its effect in summer boils, and that he had used it with much success. In consolidation of the lungs it effectually reduced the temperature of the body in two days from 103° to 99°, and although the consolidation still continued the temperature went down to normal. He had used the drug in a number of cases and the conclusion he had come to was that it could be given in the early stages with much benefit. Amongst the cases cited was one at Garden Reach of acute lobar pneumonia, a typical case at base of left lung. The temperature was very high, chloride of calcium was given for three days, on the fourth day the temp fell to 102°, on the 5th to 100°, and on the 7th day to normal. He cited other cases in which similar results were obtained. The deductions obtained from his experiments were, that the drug reduces the temperature of the patient and thus stores up vitality which would otherwise be expended by a continued high temperature. He thought the drug worth a trial in the hands of those present, and it was on this account he had brought to light the results of his experience before the Society. The dose was from 5 to 15 grains, three times a day.

The President on behalf of those present, said that the Society was greatly indebted to Dr. Crombie for his kindness in treating them to so interesting a paper as that which he had read, and hoped that those present would test the value of this method of treatment in their practice.

The meeting then dispersed.

Current Medical Literature.

NOTES ON A CASE OF FRACTURE OF BASE OF SKULL, WITH HÆMORRHAGE FROM THE RIGHT EAR AND THE AILMENTARY CANAL.

SURGEON-CAPTAIN CHARLES R. WOOD, M.D., read the following before THE BURMAH BRANCH SOCIETY OF THE BRITISH MEDICAL ASSOCIATION.—The patient was admitted into the Station Hospital, Rangoon, suffering from concussion of the brain. On the evening of the 28th December he was walking about at Monkey Point after a hard day's work, drilling the Volunteers and making arrangements about their Camp. He suddenly felt giddy and fell heavily on the ground and became unconscious. He had been a good deal exposed to the sun during the day and it is possible that it being 'Xmas time and the period of the year chosen for the Volunteers to Camp out, that he had been living well but there was no history of intemperance. On his admission to hospital he was unconscious, he was bleeding from the right ear and there was a well marked contusion on the right side of the head. There were no localized signs of paralysis. The pulse was slow and laboured, the pupils were slightly dilated and fixed, the skin was cool and the breathing natural.

The head was shaved, ice applied to the scalp and the bowels well acted on. The next morning the patient was semi-conscious and could with great difficulty be roused to answer "Yes" and "No." The bleeding had continued from the ear during the night but no lesion could be discovered in auditory passages. The patient continued in much the same condition for a couple of days, but on the 31st December, he became restless and fretful, his eyes became ferrety, and his pulse was hard and frequent. The temperature rose to 100·4 F, he could not sleep and he complained of pain in the right side of his head. The pupils were now contracted and photophobia was present. This condition was followed by drowsiness and the patient required to think before he could answer questions. On the 1st and 2nd January, about a pint of dark colored blood passed unconsciously through the bowel but no local affection could be found to account for this hæmorrhage. Leeches, purgatives, low diet, rest in a darkened room, blistering, mercury were prescribed with good effects: the patient became more

sensible, slept better and gradually began to improve. In the meantime the discharge of blood from the ear which had flowed slowly but continuously became more or less purulent and emitted a strong offensive odour and a draw sheet had to be placed on the pillow to catch the discharge which was sufficient to soak several handkerchiefs daily. The patients hearing was very much impaired on the right side, his ear was syringed out with warm boracic lotion. From the 15th to the 22nd January, the discharge from the ear which was now apparently pure pus became less, and the temperature rose to 103F. The side of the head and face became red and swollen and very painful. The patient became semi-conscious and it was thought that matter was collecting and pressing on the brain. Large and continuous fomentations, position, etc, favoured the flow of matter from the ear, and again with a more copious flow of matter these unpleasant symptoms subsided and the patient become convalescent. The discharge became less and less, and at present there is a little thin semi-purulent discharge. It was found on examination that the right tympanic membrane was ruptured.

From the history of the case it would appear, that there was fracture of skull with rupture of right tympanic membrane and that a small artery was torn which poured out some blood on the dura mater. The blood trickled through the right ear but not in sufficient quantity to prevent clotting and disorganization: the blood from the ear becoming more or less purulent until the discharge was almost pure pus but emitting an unpleasant smell. Where the blood which was discharged through the bowel on the 1st and 2nd January came from, was not ascertained.—*Trans. Burmah Branch B. M. Assocn.*

STRONTIUM BROMIDE AS AN ANTI-EMETIC.

THE favorable action of strontium bromide in gastric affections—dyspepsia, acetic and lactic fermentations, flatulence from decomposition, etc., has been known for some time, but in the capacity of a pure anti-emetic, it has been described only quite recently. Dr. G. Coronedi, assistant to Prof. G. Bufalini, of Florence, finding himself one day in the presence of a case of incoercible vomiting of pregnancy, decided to try strontium bromide, and with a successful result. The medicament was administered in doses of one gramme (15 grains) with each of the two principal meals, and its use was continued for a month. At the end of this time the tendency to vomiting had entirely disappeared, so that the treatment could be discontinued.

This observation induced Dr. Coronedi (*Sem. Med.*) to experiment with strontium bromide as an anti-emetic in nine other patients at the medical clinic of the higher School of Medicine at Florence, all suffering from vomiting of divers origin—gastro-ectasis, hysteria, acute gastric catarrh, chronic glandular gastritis of Brinton, chronic lead-poisoning, and septicæmia consequent upon an abortion. In every case the vomiting ceased more or less rapidly, sometimes even after but one or two doses of the salt, which was administered with the meals in doses of two to three grammes (30—45 grains) per day.

The author concludes from these observations that strontium bromide possesses, besides its anti-dyspeptic effects and its analgesic action on the stomach, also pronounced anti-emetic properties, and therefore deserves to be employed in the treatment of vomiting from almost any cause. As the medicament has a very disagreeable taste when administered in solution, and, on the other hand, is too hygroscopic to be given in cachets, Dr. C. recommends prescribing and preserving it in small glass tubes hermetically closed with a cork, one gramme of the medicament in each tube and constituting a dose, which is to be taken in unleavened bread immediately before each meal.—*Merck's Bulletin.*

PRECOCIOUS HÆMORRHAGE IN PLACENTA PRÆVIA.

Tissier, of Paris, *(Nouv. Arch. d'Obstet. et de Gynec.)* read notes of this case at the April meeting of the Societie Obstetricale de France. The patient began to flood in the first month of her twelfth pregnancy. The hæmorrhages continued until delivery at the end of the eighth month, painful uterine contratcions accompanied each flooding. Although these symptoms did not indicate a vicious insertion of the placenta, it was found that partial placenta prævia existed.

The early appearance of hæmorrhages was a feature of special interest. Putting aside abortions attributed, on insufficient evidence, to placenta prævia, it is rare to see hæmorrhage before the fifth month. In this case that symptom was present throughout pregnancy.

Gaulard, in discussing Tissier's paper, said that the case was not unique, and he belived that many abortions were really due to placenta prævia.

Pinard was of the same opinion, and said that hæmorrhage throughout pregnancy was commoner than was usually supposed.

Tissier noted that the placenta often comes down very near the cervix in early pregnancy.

Lefour, of Bordeaux, held that it was important to diagnose hæmorrhage from vicious insertion of the placenta at the earliest stages of pregnancy; as Tissier said, the symptoms in his case were not characteristic, according to current teaching.

Professor Tarnier also insisted on the importance of diagnosis; this case was misleading. The patient was kept at rest for some time, being already exhausted by the floodings. The final flooding, though not severe, was sufficient to kill her.—*St. Louis Med. and Surg. Journal.*

ATROPHY OF ONE HEMISPHERE OF THE BRAIN.

Dr. E. D. Fisher (N. Y. Med. Record) presented to the New York Pathological Society a brain which had been removed from a person, seventeen years of age, who had had cerebral hemiplegia in childhood, probably at birth. The patient presented the usual condition—hemiplegia, marked contractures, non-development of the bones of the upper and lower extremities, exaggerated reflexes, imbecility, and epi-

lepsy, and the speech was limited to a few simple words. The side of the brain opposite the paralysis of the body was very much atrophied, and the convolutions were so much shrunken that it seemed almost as if this portion of the brain had been subjected to the contracting action of nitric acid; the cortex was at least one-fifth thinner than that of the opposite side, and the ventricle on that side was very much dilated, and filled with fluid. The hemisphere of the cerebellum on the opposite side was also considerably atrophied, and there was degeneration extending from the cortex through the internal capsule and pons, down to the cord. No microscopical examination had yet been made.

The chief point of interest was in regard to the cause of this condition; was it the result of an injury at birth, or was it due to a meningeal hæmorrhage? The person was of course too old to furnish evidence of any hæmorrhage; there was nothing in the condition of the vessels to indicate any intra-cerebral trouble, so that the condition must have been due to either a meningeal hæmorrhage, or to an encephalitis. It was another one of those cases showing the futility of any operation for the relief of such a condition unless undertaken in the second or third year of life, and even at this time, it was extremely likely to prove fatal.

CAN WE PREVENT SECONDARY HÆMORRHAGE AFTER OVARIOTOMY?

H. T. Hanks, M.D., of New York (*N. Y. Jour. of Gyn. and Obs.*) in a discussion on this subject stated that it was worthy of consideration as shown from the fact that, even to-day, good surgeons occasionally had hæmorrhage after ovariotomy. He had himself had two cases; in one the patient died, and in the other he was able to save her life by re-opening the abdomen and securing the point of hæmorrhage. It was necessary also to resort to transfusion. Three years earlier he had seen two cases in the practice of a friend, in one of which he himself re-opened the abdomen, transfixed the pedicle, employed a saline solution and saved the patient's life. He had known of no fewer than ten deaths from this accident within the last five years. Could, then, rules be formulated for its prevention? This question was especially worthy of consideration by the younger members, who might have judged from their work that there was but one way of fastening the pedicle. The same procedure should not be practised where the pedicle was wide and flat, as where small and round.

Where the tumor was large, after ligating the large artery and tying it as tightly as possible, quilt the broad pedicle in and out so that under no circumstances could the silk slip. In smaller pedicles, discover the artery if possible before transfixing, and pass a transfixing needle to one side of it and tie it thoroughly. In other words, in small be sure not to splint the artery or pedicles, by too much traction in tightening the ligature. In removal of the diseased tubes and ovaries, if diseased and embedded in old adhesions, there would be only small arteries to deal with and almost any well-tied ligature would hold. He advocated no special ligature, either silk or catgut would do, but should be quite aseptic. If catgut were employed, make the first part of the knot with one turn, the second part with two turns.

THE VALUE OF ELECTRO-THERAPY UPON FIBRO-MYOMATA.

Martin and Mackenrodt (*Deutsche medicinische Wochenschrift*) give the result of their experience with electricity in the treatment of uterine fibroids. Thirty-six cases were subjected to the Apostoli method and about 55·5 per cent. of them were benefited as far as certain conditions were concerned. The hæmorrhage and pain were lessened and the general health improved. In twenty cases the menopause occurred during the treatment and retrogressive changes occurred in the tumors. In no case did the tumor disappear, nor ever, to a certainty, diminish in size. In 44.5 per cent. of the cases there was no improvement at all. In many of them the condition grew steadily worse during treatment and three cases died. Two deaths were due to septic peritonitis, laparotomy being performed in one case with removal of the suppurating mass, and one died from profound anæmia due to repeated hæmorrhages.

While recognizing the benefits to be derived from electro-therapy in checking hæmorrhage and in alleviating pain, the authors are not disposed to recommend its general adoption. They have found that the length of time improvement lasts will depend upon the proximity of the menopause, and in such cases the application of electricity may be serviceable in checking profuse bleeding and in relieving pain until the menopause sets in and causes some atrophy of the uterus and its appendages. But in general, they consider the use of electricity in treating these tumors dangerous, because of the complications frequently present, *vis.*, cystic or malignant changes in the tumor; cancer of the uterus; or disease in the adnexa. Oftentimes these conditions cannot be appreciated until the abdomen is opened. Their policy in dealing with these tumors is to let them alone if they are small and not giving rise to symptoms. Use electro-therapy as a palliative measure in a few selected cases, but operate in the majority of cases. They report twenty cases of laparo-hysterectomy done for this trouble with two deaths (neither from sepsis), and fourteen cases of vaginal extirpation, with no death.—*University Med. Magazine.*

REMOVAL OF THE BREAST DURING HYPNOTIC SLEEP.

Dr. Schmeltz, of Nice, has recently recorded a case (*Gazette Medicale de Strasborough*) in which he removed a sarcomatous breast during an anæsthesia caused by hypnotism. The patient was a girl, *æt.* 20, who was easily thrown into the hypnotic state. The operation was performed in the presence of Drs. Lauza and Barriera, and the entire organ together with the aponeurosis of the pectoralis major, was removed by the oval incision. Five drainage tubes were inserted and the wound was closed with thirty-two metallic sutures. The

operation lasted an hour. The patient remained absolutely insensible, in a condition of the deepest anæsthesia, such as is only seen after large doses of chloroform. Dr. Schmeltz says: "I operated very slowly and quite at my ease; the patient even tried to encourage by her words; she seemed very gay, and laughed loudly from time to time as if to show that she felt no pain. In order to make the operation easier for me she turned herself about, so as to place herself in the most favorable position, keeping her right arm stretched out so that no assistant was required to keep it steady." She was kept under observation the rest of the day, and having been told not to feel pain and to have a good night she obeyed these instructions in the most docile manner. The wound was completely healed on the fifteenth day. The only symptom worth mentioning which Dr. Schmeltz observed in the patient during the operation was great pallor of the countenance, without any dilatation of the pupil or weakening of the pulse. The tumor weighed two kilograms.—*N. O. Med. and Surg. Journal*

MENSTRUATION AND LACTATION.

It is a generally received view that the supervention of menstruation during the period of lactation is prejudicial to the quality of the maternal milk supply, and therefore detrimental to the nutrition of the child. Most practitioners will probably state as a matter of observation, that menstruation unfits the mother as a nurse by reducing the quantity of the milk in addition to rendering it more "watery." In order to ascertain the real effect of menstruation on the quality of the milk, Dr. Schlicter has made a series of analyses which seem to show that the current belief is founded on defective observation. In addition to careful examination of composition of the milk during and after menstruation, he had the child weighed and its general condition noted at and after the same period. He reports that in respect both of casein and fat, the milk secreted during menstruation compared favorably with that furnished prior to that date. The differences observed, moreover, in no case equalled those which occur in the milk of the normal healthy female at various periods of the same day; hence he declines to attach any importance to them.—*Dietetic and Hygienic Gazette.*

TWO CASES: CALCULI IN THE PREPUCE,—LARGE CALCULUS IN THE BLADDER.

DR. W. K. HATCH read the following notes of two cases before the Grant College Medical Society, Bombay.

Case I.—A number of small calculi removed from the prepuce of a man about 30 years of age. The man stated that he had suffered from phymosis and found, during the last 2 years, that the end of the penis was becoming enlarged and the difficulty of micturition increasing. On examination he was found to have a very contracted preputial orifice about the size of a pin-top and the penis was club-shaped. The distended end of it gave a peculiar grating sensation to the hand, and there was a little whitish discharge. He was circumcised and 1050 facetted calculi removed. (Calculi exhibited.)

Case II.—A large calculus removed by supra-pubic lithotomy from a Mahomedan of about 30 years of age. The patient had suffered from symptoms of stone for about 14 years and had been under treatment of several quacks who had promised to dissolve the stone. When seen by me he was in fair condition, considering the length of his illness and was suffering from constant dribbling of urine, inability to walk without support and pains in the penis and bladder. The presence of a large stone having been diagnosed I decided to remove it by supra-pubic operation which I did in November 1891. There was considerable difficulty in removing the calculus, even after very free incision of the bladder; hæmorrhage was slight; the incision in bladder was partially closed by catgut sutures and a catheter was passed into it through the perinæum. For a fortnight he did well; then troublesome oozing from the bladder set in which was stopped after a week by astringent application; a severe attack of diarrhœa then set in and carried off the patient. Weight of the stone was 17 ozs. (Stone exhibited.)

At the conclusion of these communications Dr. Jan Mahomed said that he knew the last patient and was surprised to learn that the patient had no difficulty in passing urine and no knowledge of the existence of stone nor any inconvenience by its presence till about a fortnight before the admission into the Hospital. Dr. H. P. Dimmock said that even for such hard and large stones some surgeons used the lithotrite and even broke them with hammer if necessary.—*Transactions of G. C. Medical Society, Bombay.*

Handy Formulæ.

POST PARTUM UTERINE PAINS.

Rutherford recommends:—

℞ Quin. sulph., ... gr. xv.
Opii pur., ... gr. viiss.
Extr trifolii, ... q. s.

M, ft. pil. no. xv. Sig.: One pill every two or three hours.—*Rèvue Géneral de Clinique et de Thérapeutique; Condensed Extracts.*

CONSTIPATION.

℞ Aloin, ... gr. ½
Ext. bellad., ... gr. ⅛
Ext. nux vomica, ... gr. ¼
Papoid, ... gr. iss.

M. Ft. pil. no. j. (Use no water to form mass.) (Keep in air-tight phials.)

Sig.: One pill once or twice a day.—*The Prescription.*

NEURALGIA.

In obstinate cases the following is said (New Ideas) to be successful:—

℞ Acetanilid, ... 1 grain.
Quinine, ... 1 grain.
Cocaine, ... 1/16 „

Make a pill. Give one every hour.—*Prov. Med. Jour.*

Vital Statistics.

CALCUTTA.—Deaths during week ending 4th February, 1893. From sporadic cholera 10; fevers 163, bowel complaints 58; all other diseases 179. Total 410. Total population 6,81,560. Ratio per 1000 of population per annum 31·3.

During week ending 11th February, 1893. From sporadic cholera 12; fevers 107, bowel complaints 51; all other diseases 149. Total 319. Total population 6,81,560. Ratio per 1000 of population per annum 24·4.

BOMBAY.—Deaths during week ending 7th February 1893. From fever 122; bowel complaints 35; all other diseases 277. Total 435. Population 8,21,764. Ratio per 1000 of population per annum 27·46.

RANGOON.—Deaths during week ending 3rd February, 1893. From cholera—males 2; fevers—males 30, females 34; diarrhœa—males 7; dysentery—males 5, females 3; other causes—males 36, females 20. Total—males 80, females 27. Ratio *per mille* per annum 30·15.

During week ending 10th February 1893. From fevers—males 30, females 5; diarrhœa—males 6; dysentery—males 3, females 6; other causes—males 33, females 33. Total—males 72, females 39. Ratio *per mille* per annum 32·00.

DELHI.—The total number of deaths during the month of January 1893, was 541; males 273, females 268. According to classes, Christians 3, Mahomedans 217, Hindus 321. From fevers 260, dysentery and diarrhœa 24, small-pox 1, accidents 2, other causes 254.

Births during the month of January 1893. Total 544; boys 260, girls 284.

Medical News and Comments.

CHOLERA IN INDIA.—*The British Medical Journal* says:—We understand that the class of army surgeons at the Army Medical School, Netley, preparing for service in India, is now being instructed by Professor Wright in the method of conferring immunity from cholera by the vaccination procedure of Dr. Haffkine, recently worked out at the Pasteur Institute. Upwards of fifty doctors and students of medicine have voluntarily undergone these vaccinations in Paris, among the first being Professor Hankin, formerly of Cambridge, but now of Poona. The results have been harmless, and afford room for encouraging anticipations.

LAUDANUM DRINKING.—The anti-opium party (says the *Globe*, will be greatly surprised to hear that laudanum drinking in excessive quantities is quite common in some parts of England. We assume that this will come to them as news, feeling assured that if they were aware of the fact they would endeavour to pluck this mote out of the British eye before seeking to remove the beam from the Asiatic optic. At a coroner's inquest the other day at Sunderland on a respectable woman who had accidentally poisoned herself with an overdose of laudanum a chemist deposed that he had been in the habit of supplying her regularly for thirty years. At first one drachm a day sufficed, but the quantity gradually increased until at the time of her death three ounces of the drug only lasted her for nine days. The coroner asserted, as fact within his own knowledge, that laudanum drinking is a common practice among Sunderland women. Nor is it confined to that town; country clergymen tell of its existence in many other places, and deplore its terrible consequences. There is a want of consistency, to say the least of it, in fencing round the sale of other poisons with all manner of legislative precautions, while allowing laudanum to be bought wholesale by all comers.

MILITARY NOTES.—With reference to the question whether the promotion of a senior Apothecary first grade to Honorary Captain, on completing three years' service should be notified in the *London Gazette*, the Secretary of State for India has ruled that although a senior Apothecary, first grade ranks as Honorary Captain on completing three years' service and grade, his advancement is not a promotion in military rank and therefore is not notified in the *London Gazette*. It is pointed out that the case is analogous to that of the Surgeon-Major of the Medical Staff before the recent change in designations. After twenty years' service, the Surgeon-Major ranked as a Lieutenant-Colonel, but the increase in rank for precedence, &c., was not gazetted. It is further ruled that the retirement of senior Apothecaries should be made "subject to Her Majesty's approval," and afterwards confirmed in the *London Gazette*.

IT has been arranged that Surgeon-Col. Pilcher shall remain in Bengal and officiate for Surgeon-Colonel Hilson as Inspector-General of Civil Hospitals. The latter goes home on sick leave, and will be succeeded eventually, we understand by Surgeon-Col. Harvey, now with the Punjab Frontier Force.

CHOLERA IN EUROPE.—Official statistics show that 8,510 deaths are attributed to the last cholera epidemic in Germany, 7,611 having occurred in Hamburg. Cholera is raging severely along the Caucasian shore, while fresh cases repeatedly occur in Hamburg.

THE INTERNATIONAL MEDICAL CONGRESS.—Dr. Julius Zano, Professor of Physiology at the University Geneva, is now in Calcutta, studying the subjects of cholera and leprosy, with the object of treating these diseases in a series of papers, which he will read at the International Medical Congress to be held in Rome towards the end of Setember. A German Professor is expected in Calcutta next month, his object being also the study of cholera, and he will proceed to districts where *kala-azar* is prevalent, in order to make observations on the disease. Within the next six weeks quite a number of foreign *savants* are expected in India, to study special subjects, particularly zymotic diseases peculiar to the country.

MEDICAL STUDENTS IN GERMANY.—The total number of students in the medical faculties of the 20 universities of Germany during the current winter semester is 8,049, as against 8,276 for the corresponding period of last year. Berlin heads the list with 1,254, Munich comes next with 1,136, Leipzig stands third with 899, and Wurzburg fourth with 738. After these come Greifswald with 382, Erlangen with 342, Strassburg with 327, Preiburg with 303, Breslau with 276, Bonn with 271, Halle with 263, Heidelberg with 249, Marburg with 247, Kiel with 245, Konigsberg with 232, Tubingen with 224, Jena with 205, Gottingen with 181, Rostock with 135, and Giessen with 133.

DR. CLIMO of Sialkot has for some time past given his attention to the subject of enteric fever among the soldiers, and he ascribes the cause to sub-soil sewage contamination. Sialkot has advantages of situation and climate, and yet the death-rate of enteric disease is high, while that of other fevers is nominal. Dr. Climo objects to the trench system of disposing of sewage which obtains there, and to the spreading of manure on the grass farms in the midst of populated land.

Government Notifications.

SURGEON-MAJOR OWEN, C.I.E.—The service of Surgeon-Major C. W. Owen, C.M.G.. C.I.E., of the Commander-in-Chief's staff, who has lately returned from furlough, will, on the departure from India of Lord Roberts, be placed at the disposal of the Patiala State, where he will be appointed Chief Medical Officer of the Raj.

Surgeon Major A. Admas, M.D, I.M.S., Madras, Resy Surgeon, Western Rajpootana States, is granted privilege for one month and eleven days.

Government Notification appointing Surgeon Captain J. T. Calvert to act as Civil Surgeon of Mymensingh is cancelled.

Mr. W. T. Woods. Lecturer on Dentistry, Medical College, Calcutta, is allowed leave without allowances for eight months.

Mr. G. O. Ranger is appointed to be Lecturer on Dentistry in the Medical College Calcutta, during the absence, on leave, of Mr. W. T. Woods, or until further orders.

General—9th Eebruary—Dr. John Lupton Hendley is appointed Honorary Surgeon of the Dacca Volunteer Rifle Corps.

Medical Department—9th Febuary—Surgeon-Major J. French Mullen, Civil Surgeon of Rajshahi, is allowed furlough for one year and fifteen days.

11th Febuary—Kumar Bhupendra Narayan, Civil Medical Officer of Pubna, is allowed leave for one month and seven days.

11th February—Assistant-Surgeon Narandro Nath Gupta is appointed to act as Civil Medical Officer of Pubna.

9th Febiuary 1893—No. 12.—Second grade Hospital-Assistant Budhisvar Bardalai, in subordinate medical charge of the Tezpur Jail and Police Hospitals, is transferred to Mangaldai, and appointed to the medical charge of the Dispensary there with the Lock-up in addition to his other duties.

9th February 1893.—No. 13.—Second grade Hospital Assistant Dwaraka Nath Shome, in medical charge of the Mangaldai Dispensary and Lock-up, is on relief transferred to Tezpur and appointed to the subordinate medical charge of the Jail Hospital there with the Police in addition to his other duties.

No. 702.—With reference to Government Notification No. 2590, dated the 17th May 1892, it is notified that Surgeon-Lieutenant-Colonel S. M. Salaman, M.D., held that the appointment of Inspector-General of Prisons and Registration and Stamps, and Registrar-General of Births, Deaths and Marriages, on the 9th and 10th October 1892, as substantive *protem.*

No. 412.—Surgeon-Lieutenant Colonel P. Murphy, M.D., M.CH., is allowed privilege leave of absence for two months from 1st March 1893.

Assistant-Surgeon P. P. Moolan and Surgeon-Lieutenant Colonel C. T. Peters, M.B., respectively delivered over and received charge of the Bijapur District Jail on the 13th January 1893, after office hours.

No. 305.—Assistant-Surgeon Kaikhashru Sorabji Engineer has been placed on general duty with effect from 21st January 1893, afternoon.

No. 306.—Assistant-Surgeon Tuljaram Chunilal Khandvala, L.M. & S., is appointed to the medical charge of the dispensary at Sirsi, with effect from 17th January 1893, afternoon, during the absence of Assistant-Surgeon Venkatesh Balvant Karandiker, L. M. & S., granted privilege leave.

No. 349.—Mr. Shapurji Dossabhoy Bharucha, L.M. & S., is appointed an Assistant-Surgeon of the Third Grade.

Domestic Occurrences.

BIRTH.

WATSON.—At Hendle, Verton-park, Cheltenham, on January 9, 1893, the wife of Depy Surgeon-General George Alder Watson, Bengal Army (Retired), of a son.

MARRIAGE.

COURTS—HAMMOND.—At St Patrick's House, Brighton, on January 19, 1893. Falconer Charles, eldest and only surviving son of the late J. F. Courts, of Rambrola, Chupra, Bengal, to Muriel Eva, only daughter of Dr. F. J. Hammond, M.D., F.R.C.S, of Indianapolis, Indiana U.S.A.

DEATHS.

ANDERSON.—On the 17th January, at Iver, Bucks, James Anderson, L.R.C.P.L. F.P.S., late of Calcutta,—aged 45.

DORMAN.—On the 4th February, at Delhi, Eileen, the infant daughter of Surgeon-Major J. C. Dorman, A.M.S.—aged eleven weeks.

Acknowledgments.

ANSWERS TO CORRESPONDENTS.

Dr. A. P. Dass.—We were compelled to keep your paper out of this issue.

Dr. J. C. Day.—Later on.

Dr. Ghosal.—We will find you space in the next issue.

Dr. Nugent.—One of your two papers appear in this issue.

Dr. Amulya Bose.—Many thanks for your promise.

Dr. Kerr.—Many thanks for the paper you have sent us.

Dr. R. P. Banerjee.—Your two other papers have been received.

Dr. S.—We do not care to insert anything personal in our columns. You had better send your grievance to another paper, but no good will come of publishing all that you sent us, although all that you say may be true.

Indignant.—No, we rather not interfere in the matter.

Dr. Chew.—Your paper will be continued next month.

Letters and Communications have also been received from the following.—

Surgeon-Captain Ronald Ross, I.M.S., Garrison Surgeon, Bangalore; Surgeon-Lieutenant Colonel G. King, M.D., Superintendent Royal Botanical Garden, Calcutta; Surgeon-Captain W. B. Lane I.M.S., Edwardesabad; Surgeon-Captain H. Smith, Dharamsala; Surgeon-Captain P. Prasad, I.M.S., Barrackpore; Dr. Leonard A. Bidwell, F.R.C.S., Evelina Hospital, London; Dr. Wright, M.D., London; Dr. D. S. Khanka, M.B., Assistant-Surgeon, Pindi-Ghele; Hospital-Assistant A. N. Lazarus, Detail Hospital, Mandalay; Hospital-Assistant F. Hilbert, Moulmein; Dr. K. Isha Chand, Medical Officer, Songad; Hospital-Assistant S. K. Dean, Bhawalpore Panjab; J. Ryan Slater, Esq., S.M.D., Roorkee; Dr. M. N. Ohdedar, Assistant-Surgeon, Allahabad; Hospital-Assistant, C. A. Wesley, Sherapur, Lingsagar; Hospital-Assistant V. Benjamin, Bassein; Hospital-Assistant S. R. Desai, Kalhapur; Hospital-Assistant, D. M. Gnana P. Pillay, Bangalore; Dr. Gopal Chundra Gupta, Assistant-Surgeon, Sikandarabad; Dr. Moore, L.R.C.P., London; Dr. M. G. Desai, Assistant-Surgeon, Broach; Hospital-Assistant Agia Ram, Murree; Hospital-Assistant A. Nandka, Kabirwola; Dr. R. N. Ghosal,

Calcutta; Dr. A. T. Ghosal, Calcutta; Dr. D'Silva, Bally; Dr. A. C. Bose, M.B., Calcutta; Hospital-Assistant P. C. Singh, Port Blair; Hospital-Assistant B. B. Chatterjee, Bally; Hospital-Assistant Luckput Roy, Sirhohi; H. Day S.M.D., General Hospital, Calcutta; Dr. Green, London; Dr. N. C. Mittra, M.A., M.B., Assistant-Surgeon, Ranchee; Dr. R. P. Banerjee B.A., G.B.M.S.L., Pachbadra, Rajputana; Dr. T. M. Shah, State Medical Officer, Junagadh; Dr. A. L. Sandel M.B., C.M., Calcutta; Dr. A. P. Dass, L.M.S., Calcutta; Dr. Pillai, Madras; Dr. J. C. Day, M.B., Assam; J. Brown, Esq., S.M.D., Balliguda; Dr. R. S. Chew, M.D., C.M., M.S.C., Calcutta; D. Robertson, Esq. S.M.D., Syadpett; Hospital-Assistant Sheik Mohamed Hosein, Muscat, Arabia; Dr. N. C. Dutt, Asisstant-Surgeon, Noakhali; Dr. Weir, Health-Officer, Bombay; Dr. R. G. Kerr, L.R.C.P.E., Calcutta; Dr. R. Nugent, L.R.C.P., and S., Kidderpore; Grindlay and Co., London.

Periodicals.—The Lancet—The British Medical Journal—The Edinburgh Medical Journal—Indian Medical Gazette—Journal de Mèdicine de Paris—Modern Medicine—Australian Medical Journal—The Sanitary Journal—The Medical and Surgical Journal—The Medical Times and Register—The Lancet-Clinic—The Medical Bulletin—The Medical and Surgical Reporter—The New York Medical Journal—The Family Doctor—The Medical Week—Health Messenger—Health—The Medical Record—British and Colonial Druggist—Chemist and Druggist—The Medical Review—New Orleans Medical and Surgical Journal—The Medical Monthly—The Scalpel—The Humanitarian—The Popular Science Monthly—The Sanitary Record—Merck's Medical Bulletin—The Southern Medical Record.—The Sanitarian—Doctor's Weekly—The Post Graduate—The Therapist—The Satellite—The Medical Compend—The Medico-Chirurgical Review.

Books and Pamphlets.—Braithwaite's Retrospect of Medicine, Vol. CVI., 1892, (Simpkin & Co. Ld., London.)—Transactions of the Grant College Medical Society for 1892, and Dr. Khory's, Retrospective Address—The Human Hair, 27th Edition, By Professor Harley Parker—A Discourse on Capillary Bruit, By Assistant-Surgeon B. N. Sinha, L.M.S., Civil Medical Officer, Chittagong.

Newspapers.—The Home News—The Indian Daily News—The Statesman—The Eastern Guardian—The Evening Star—Newman's Bradshaw—Hope—The East—Islam—Bombay Native Opinion—Bangalore Spectator—Nagpur and Berar Times—Progress—Punjab Patriot—Arrakan News—Rangoon Gazette Weekly Budget—The Express—Madras Advertiser—Behar Herald and Indian Chronicle—Bombay Guardian—Banner of Asia—Tribune—Beluchistan Gazette—Western Wit and Wisdom—Indian Empire—Gwalior Gazette—Eurasian Recorder—People's Friend—India Watchman—Western Star—Messenger of Light—Indian Nation—Indian Union—Poona Observer—National Guardian—Indian Engineering—Courier—The Argus—The Bengal Times—Signs of the Times—The Indian Textile Journal.

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Original Articles.

WATER.

A LECTURE, BY R. G. S. CHEW, M.D., C.M., M.S.C.,
Late ANALYST TO THE CORPORATION OF CALCUTTA.

(Continued from page 44, Vol. II.)

SMELL

has great weight in assisting the diagnosis of a water; but it is not to be too much depended on: as in the first place our noses often play us inconvenient tricks, and secondly there are many waters that possess a most abominable odor and yet are perfectly wholesome. Thus if you pull the stopper off this bottle you will be treated to a most disgusting stench, which you will scarce believe is evolved by *pure* distilled water that age has rendered vapid, and which, if your stomachs are stronger than your noses you may *safely* drink.

TASTE

which differs exceedingly in different persons is at best of times a most uncertain and non-reliable test. Thus highly impure water which often possesses a very palatable and refreshing taste is most appreciated by cooks and greatly relished by the same people who reject *pure* distilled water as undrinkable on account of its flatness and insipidity.

Again iron salts cannot be detected by taste till they attain 0·2 grain per gallon, and water has only a *slight* saline taste when the total combined salts, dissolved in it, average from 35 to 40 grains of which 6 to 8 grains, exist as sulphate of lime or gypsum.

And again other salts are scarcely tasted till they appear in rather large quantity, thus:—

Sodium	Carbonate	till it reaches,	from 60 to 65 grs.	℔ gallon.
	Chloride	,, ,,	,, 70 to 75	,, ,, ,,
	Sulphate	,, ,,	,, 35 to 40	,, ,, ,,
Magnesium	Chloride	,, ,,	,, 50 to 55	,, ,, ,,
Potassium	,,	,, ,,	,, 20 to 25	,, ,, ,,
Potassium	Carbonate	,, ,,	,, 30 to 35	,, ,, ,,
Barium	Chloride	,, ,,	,, 7 to 11	,, ,, ,,
Lead Salts	till they reach		,, 5 to 14	,, ,, ,,

THE HARDNESS

of a water is mainly due to the presence of salts of lime and magnesia, which are dissolved and held in solution by the carbonic acid which most natural waters contain, but which being driven off by boiling is removed from its combination with the various salts which are forthwith precipitated because they are not very soluble in water that does not contain an excess of carbonic acid.

THE TOTAL SOLIDS

are ascertained by evaporating a *measured* quantity of the water and weighing the residue.

THE DISSOLVED SOLIDS

are next determined by *carefully* filtering some of the water under examination, through three or four folds of bibulous filter paper; measuring out a *certain* quantity of the filtrate and weighing the residue after evaporating to dryness, and the difference between these two weighings (provided similar quantities of the fluid have been evaporated) gives the quantity of SUSPENDED MATTER the water contained.

CHLORINE.

In this bottle before you is some water drawn from the Calcutta taps (*i.e.*, the town supply), and clear though it seems, I will shew you that it contains a rather large amount of chlorine, as may be proved by throwing in a solution of lunar caustic or nitrate of silver, when a white curdy precipitate of argentic chloride is at once thrown down.

To ascertain the quantity of chlorine present in the water, we make the silver-solution of such a strength that 1 cubic centimetre of it shall precipitate 1 milligramme of chlorine; but as it would be extremely difficult to tell the exact point at which precipitation should cease, we employ as an indicator, a solution of yellow chromate of potassium. Taking advantage of the fact, that silver having a stronger affinity for chlorine than for chromium, the brick-red chromate of silver will not form till the whole of the chlorine is exhausted (*i.e.*, precipitated).

As soon as the brick-red color begins to shew, we know that the chlorine reaction is completed and read off the number of cubic centimetres of silver solution passed through the burette (which is this instrument I hold before you) and multiply by 0·001 to obtain the weight of the chlorine precipitated from the quantity of water experimented on.

SULPHURETTED HYDROGEN

is seldom tested for quantitatively, as its very presence is sufficient to straightway condemn a water as unfit for domestic use. It may be detected—(*a*). By adding to the water, a few drops of a solution of plumbic subacetate or sugar of lead which will then occasion a brownish black deposit of sulphide of lead.

(*b*). By boiling the water and noting whether white lead-paper held in the steam becomes darkned.

(*c*). By adding copper sulphate or blue stone to the water and noting the blackish precipitate.

(*d*). By the purple color produced by a solution of nitro-prusside of sodium (in a solution of caustic soda).

AMMONIA.

All potable waters contain Ammonia in various proportions: This Ammonia is chiefly of two varieties, *i.e.*, Free ammonia and Albuminoid-ammonia, and to estimate the former we place a measured quantity (usually half a litre) of the water

into a clean glass retort or flask which is then connected to a Liebig's condenser and a flame applied to the flask or retort until three successive distillates of 50 cubic centimetres each, have passed over. The first of these three distillates is reserved while the other two are thrown away.

We next remove the light from the retort, into which we now pour 50 cubic centimetres of alkali solution, re-connect the condenser and distilling over another three series of 50 cubic centimetres each, respectively number them as 1st, 2nd and 3rd Albuminoid ammonia.

Now to each of these distillates we add 2 cubic centimetres of Nessler solution, which will produce varied shades of amber or straw, which we imitate by means of distilled water containing certain proportions of a standard solution of Ammonia Chloride and Nessler, and note the quantity of ammonia solution used.

We then divide the number of cubic centimetres of ammonia solution used (in imitating the exact tint shewn by the above distillates) by three, and add the number obtained to the dividend, to which we also add the total number of cubic centimetres of ammonia solution used to obtain the several tints of the albuminoid distillates, and multiply this last sum by 0·0001 to find the total ammonia in the sample operated on.

NITRATES AND NITRITES

are more than often found in small amount, and very frequently in large quantities, in the water of tanks and shallow wells and ponds.

Sewage and fæcal matter when first mixed with water possesses large quantities of decomposable organic matter and ammonia but no nitrates, yet after a few days the moisture favoring putrescence, a peculiar process of fermentation goes on, and as this subsides the ensuing oxidation forms nitrates and nitrites at the expense of the ammonia and organic matter.

A wholesome water ought not to contain more than 4 parts of nitrogen (as nitrates and nitrites) in every million parts of water, and though the *quantitative* determination of this impurity is of the utmost importance, still, as the various processes are necessarily tedious and occupy a vast deal of time, we must for the purposes of this lecture content ourselves with ascertaining the methods for detecting the presence only, and not the quantity of nitrates and nitrites in water, and this may be effected by a variety of ways, the principal and simplest of of which are Horsley's test and Bola's test.

For the former pour 20 drops of vitriol and 10 drops of the water under examination into a glass test-tube, into which next introduce 1 drop of pyrogallol solution and two drops more of vitriol, and if nitrites and nitrates be present, a dark amethyst coloration takes place.

For the latter test, which is quicker and more easy than the former, pour into a test tube about ½ an inch of sulphuric acid that has been treated with ferrous sulphate and decanted. Then holding the tube at a slight incline carefully introduce (against its sides) a portion of the water under analysis and if nitrates are present a purple zone will form at the junction of the two fluids.

To remedy any evil we must uproot it just as a careful gardener does with weeds, and the Health Officer of an Indian town (where caste prejudices are so strong and sanitary legislation is too lax), has by far a more difficult task than has his contemporary of the "Far West" to convince the people he has to deal with, that cleanliness is next to godliness, and that cooking from or drinking of the same tank or well inside which he bathes and washes his dirty clothes and platter is not at all conducive to health.

Members of the Scientific World are fad-crazy after bacteria, micro-organisms and germ conceptions of malarial and other diseases, but where in the name of common sense is the wisdom, after proving that cholera (for instance) is due to microbe influence, to leave undisturbed the conditions that favor the germination, propagation and diffusion to an enormous extent of these noxious bacilli ?

Gentlemen, foremost among you I see a few of the Commissioners of Calcutta, to whom I would particularly say, I do not hold in any way with your theory of filling up the tank, and thus destroying the beauty of the town, for broad sheets of water when properly looked after not only lend gracefulness to the town, but also greatly help as *natural* disinfectants, to purify the air in their neighbourhood by absorbing, and decomposing many noxious substances that foster sickness; but I would suggest that such danger of infection may be minimised, if not entirely removed, by dewatering these polluted tanks, and after refilling them with clean water, preventing them from soiling.

To do this *properly* you would require a larger staff than the insufficient one you have now at your command, and by paying your employés better and in accordance to the heavy duties you demand and expect from them, you would not only keep them beyond temptation and suspicion; but also would give them such heart and zest as to make them take a *pleasure* in their work, rather than consider it a painful, irksome, and nasty duty that should be hurried through, and consequently by interesting yourselves in your employès and gaining their confidence, you would get far more efficient work than you at present do with your "standing on dignity" policy, and the public that nominated you as their representatives would grumble less at you.

Perhaps you will shrug your shoulders and say "Too much expense" or "Who cares?" Not so, not so my friends. A penny-worth of prevention is any day better than ten guineas-worth of care, and excuse me for telling you that not one of the mighty populace who have trusted their lives in your hands and supplied you with ample funds to pay *well* for good sound practical work to save them from insanitary ills, would murmur a single note if the rates they paid were devoted to purify the town instead of being squandered in fireworks, pictures and statuary, while (and not the least by any means) your employès would bless you for recognising their merits.

I am really sorry that I cannot here and to-night shew you the method of estimating the

Organic Carbon and Nitrogen,

as the processes are very long and tedious, necessitating 2 or 3 days labour and requiring costly appliances such as Sprengel's Mercurial pump and Frankland's gas measuring apparatus, both of which you here see before you on this stage on which I stand.

Metals.

The Analyst is very seldom required to examine water for metals, the search for which is indeed laborious, as you require to evaporate a large volume of water down to a very small bulk before you can attempt to look for any metallic impurities, and, as this process usually takes, at the very least some five or six hours, and as I cannot of course expect you to sit here all that time, watching me, I shall endeavour, by means of chemicals to shew you how the principal metals, that potable water sometimes contains, may be detected.

Barium Salts.—Which are extremely poisonous and pass into colorless solution, occasionally find their way into water; but their presence is very readily detected by the white insoluble precipitate of baric sulphate on the addition of a little sulphuric acid.

Arsenic.—May accidently enter water; and it is sometimes feloniously added, but its baneful presence may be ascertained in one of two ways, *viz*:—1. Marsh's test which is a dangerous and poisonous method, dependant on the generation of the the deadly and colorless arsine or arsenietted hydrogen which as you see takes fire as soon as I bring this lighted match near this jet from which the gas is issuing, and those of you whose noses are good will readily percieve a peculiar odor somewhat like garlic. 2. To perform Reinsch's electrolytic test which is by far the safer and more satisfactory one, I pour some of the suspected water into a glass flask, and, after adding a few drops of *pure* spirits of salt, throwing in this strip of perfectly clean and bright copper-foil, I boil the contents of the flask for a few minutes, and you will see the surface of the copper-foil tarnished by a blackish coat or deposit of metallic arsenic, in a state of fine division.

Copper.—Which is rather more (frequently than should be) found in water in the shape of the sulphate or nitrate, will strike this beautiful blue with caustic ammonia, or it may be thrown down by sulphuretted hydrogen as a dark colored deposit, which is readily soluble in cyanide of potassium or it may be precipitated by ferro-cyanide of potassium.

Lead Salts.—Often form during the friction caused by the passage of water through the lead pipes of the town supply, and they may be detected by the formation of the yellow iodide of lead on the addition of potassic iodide, or by the black sulphide of lead precipitated by sulphuretted hydrogen.

Zinc Salts.—Pass into solution from the walls of the galvanised water pipes and can be ascertained by the white sulphide of zinc precipitated by sulphuretted hydrogen in the presence of caustic soda.

Iron Salts.—Which are very frequently met with in water, may readily he determined either by the blue color (*i.e.*, prussian blue) formed by the addition of ferro and ferrid cyanides of potassium, or by the brown deposit caused by caustic ammonia or by the blackish-brown precipitate occasioned by ammonic sulphide.

Mercurial Salts.—Which are of two radicals are very very seldom found in water; but should they however be present they may easily be detected by the black precipitates caused by ammonia with *mercuric* salts, or by lime water with *mercurous* salts, as also by the vermillion precipitate produced by (but readily dissolved in excess of) iodide of potassium. *Cobalt* is occasionally met with in water and may be ascertained by the addition of caustic soda which promotes a beautiful sky-blue precipitate which turns red on boiling.

The Purification

of water may be effected, I. By distillation, of which quite sufficient has already been said, II. By subsidence, III. By filtration, IV. By the addition of chemical agents, V. By plants, and VI. By fishes.

II. Subsidence

is useful in the case of river water and the longer the water is allowed to stand, the better subside the clay and other suspended matters that the river churns up in its rapid course. During the rains it is quite a common thing to see the Calcutta hydrant (*i.e.*, tap) water of a milky tinge, which has no business to be there, and which is due to the water not standing long enough. With whom, or what does the fault lie? With the town filter-beds? Oh dear no! The filters are good and work well; but the excessive strain thrown on them by allowing the water to settle (?) for the very short periods, ranging from 13 to 18 hours, instead of at the very least 48 hours, is quite sufficient to clog the best filters in the world.

III. Filtration

which is merely an artificial imitation of Nature's grand process of purification by oxidation and percolation may be effected by a variety of means whereby waters that would otherwise he undrinkable are more or less rendered wholesome and potable.

The simplest and I may say oldest from of filter is the one before you, which as you see consists of a stand or frame carrying three chatties (*i.e.*, earthen vessels) placed one above the other. The water to be filtered is poured into the uppermost chattie or *culshi* where its organic matter and some gaseous and other impurities are absorbed by the wood charcoal placed in the vessel. Through the perforated bottom the water drips into the second *culshi* (which contains clean sand and gravel) to be there deprived of most (if not all) of its saline impurities, and through the five holes in the bottom of this second vessel it slowly drips into the lower-most *culshi*, which serves as a reservoir. In its passage from one vessel to the other in finely divided drops or streams the water is acted upon by the atmospheric air to become oxidised and ærated.

It is not my intention to weary you by entering into the construction-detail of each of the very many sorts of filters, considering that each filter acts in a manner precisely similar to that of the culshi-stand just described, even though the filtering

media may consist of a huge variety of substances, such as :— Animal or wood charcoal, charred peat, metallic iron, magnetic oxide of iron, magnetic carbide, peroxide of manganese, silicated carbon, sand, clay, gravel, wool, pumice, sponge ; sandstone, tannate of iron, and a vast assortment of porous materials for each of which its patentee or discoverer claims a precedence over all others.

IV PURIFICATION BY CHEMICAL AGENCIES

which has many serious drawbacks, is usually effected.—

1. By *boiling* or *agitation* when a large quantity of the constituent ammonia, carbonic acid, sulphuretted hydrogen and other impurities escape with the evolved steam, while a good portion of the lime subsides. By further raising the heat and maintaining it for a little while at 100°C., many fungus spores and living organisms that may have infected the water have been killed.

2. Dr. Clarke's patent of removing hardness by the addition to the water of sufficient slaked-lime to precipitate the lime salts originally in solution, as also those that are formed by the addition of the lime. But this method has its disadvantage in as much as it is possible to let the purified water hold in solution more lime that it at first did.

3. By boiling in the presence of vegetables containing *tannin* as exemplified by the tea we drink and without which the Chinese seldom or never imbibe water.

4. Immersion of bits of Charcoal or charring the insides of the water-butts have been found very good methods.

5. Boiling the water after addition of a little carbonate of soda is of more effect than simple boiling.

6. Organic taint may be removed by adding 2½ grains of solid perchloride of iron to every gallon of water.

7. The *bhisties* of India and the Chinese have from time immemorial employed alum (*phitkirrie*, or potash alum) as a precipitating agent in the proportion of about 5½ grains of alum to the gallon of water.

8. *Condy's Fluid.*—Is useful in removing the offensive smell from water. It is far cheaper to buy the permanganate of potash and make your own Condy's Fluid by dissolving in the proportion of 1 permanganate to 20 of water, than to buy the ready prepared fluid.

V. PLANTS

play an important part in the economy of Nature and it is a well-known fact that the purifying process is very much aided by the planting in tanks and reservoirs of certain fresh-water plants, the best known of which are :—

Vallisneria { Alternifolia or *Rusna Jhanj* of Bengal
Octandra or *Dhap* or *Dham* ,,
Verticellata or *Patta Sewala* or *Syala* ,,

and the Nymphaca Rubra or Mermaid's Hair (Bengali, *rakta kumbula*) with its long India-rubber-like flexible stems and deep red or blood-colored flowers.

In addition to the higher orders of plants there are a number of harmless confervoid growths known as *algæ* or *pannas*, which float on the water, covering it with a glistening carpet of verdure and against these healthy and purifying growths a crusade is often raised, under the silly impression that they harm the water ; but when this green veil is drawn aside, it is almost invariably found (analysis *proves* it), that the water underneath is much cleaner and pure than that obtained from tanks free from weeds.

As however Indian tanks from drought or summer heat frequently fall several feet (*i.e.*, the water evaporates), the danger lies in the carelessness of the people in allowing the *algæ* to rot on the margins of the tanks instead of removing them as the water sinks.

VI. FISH

naturally acting the parts of Nature's aquatic scavengers, must necessarily exert a purifying influence by abstracting for their own growth and nutriment, much of the animal and vegetable matters which would otherwise pollute the water. The most desirable fish for stocking tanks are the Trout, Katla, Rahu or Rooi, Nisanow, Kalaboa, Mirgal and all the members of Carp family.

EFFECT ON HEALTH.

And now Ladies and Gentlemen if you will take into consideration that at least 5/7ths of each of your bodies is composed of water, you will agree with me that you cannot be too careful as to the nature of the fluids you drink or bathe in.

It scarce requires a medical man to explain to you that half a grain of prevention is better than a hundred pounds of cure, and that on the water of a town in great manner depend the lives and healths of the people.

Though to-night I have said and shewn a great deal, much more is still to be ascertained about water, and as in the curtailments of a solitary lecture a vast amount of material *has* to be omitted, I shall draw this discourse to a close by briefly mentioning a few only of the many ills that water renders us heirs to.

There is not the least doubt that most of the parasites such as worms, tape-worm or *kuddoodana*, ringworm, itch, *etc.*, as well as syphilitic ophthalmia and very many other contagious and infectious diseases are produced by drinking of or bathing in polluted water.

Very hard waters cause goitre, cretinism, urinary calculi and in some instances osseous degeneration.

Water contaminated by animal sewage, especially the excreta of persons and animals sufferring under any form of zymotic disease, such as cholera, glanders, small-pox and typhoid and malarial fevers, *etc*—is most contagious, infectious, and poisonous.

It has also been proved beyond doubt, that some organic substances (not exactly understood as to precise nature) in water produce diarrhœa, dysentery, Peshawar fever, Delhi boils, and other affections, while some waters contain metallic impurity sufficient to produce illness, and in some cases *death*.

I have already kept you a long while, and while thanking you for your courtesy in coming here to-night as well as for the rapt attention you have paid me, I must bid you all a hearty "good night."

JAUNDICE: PATHOLOGY AND TREATMENT—WITH CASES.

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It is not my object to discuss in this paper the conflicting theories that still exist as to the pathology of this disease, but to expound it in a clear concise way by the light of modern research. In order to thoroughly grasp the pathology, a knowledge of physiology is absolutely indispensable. The liver is the largest glandular organ, situated in the right side of the abdominal cavity. Its most important function is to secrete bile. It is supplied with blood by the hepatic artery and the portal vein. These vessels end in the capillaries, and from thence arises the hepatic vein, which carries away blood from the liver. The smallest obvious subdivisions of the liver substance are the lobules. Each lobule is a polygonal mass of one-tenth of an inch in diameter. It is surrounded by a meshwork of the branches of the hepatic artery and the portal vein. The centre of a lobule is the beginning of the hepatic venous channels. The minute microscopic subdivisions of the liver are the liver cells. These occupy all the meshes of the blood vessels in the lobules. It is in these that the active powers of the liver are supposed to reside. The hepatic duct is the channel by which the bile is carried away from the liver. On following it up into the liver, the minutest branches can be traced to communicate with minute passages left between the hepatic cells, so that fine endothelial cells intervene between the hepatic cells, and the duct, and the vessels. The bile passing by the hepatic duct pours down into the duodenum while digestion is going on, otherwise, it flows back into and fills the gall-bladder. The functions of the bile may be mentioned as follows. (1). Emulsification and consequent assimilation of fat. (2). Prevention of putrefaction in the fæcal matter of the intestines. (3). Natural purgative.

Jaundice is the yellow discoloration of the skin, conjunctivæ and urine, owing to the presence of the bile in the blood. This presence of the bile in the blood has led to the most important question, whether the bile as such is ever present in the blood, or any of its constituents. This means to say, whether the function of the liver is an excretory one, removing the deleterious products from the system, or whether it secretes the substance in its own cells. Dr. George Harley whose name will always be honorably mentioned in connection with the pathology of the diseases of the liver, had been of the opinion that the colouring matter of the bile, *biliverdin*, existed in the liver, but that the *bile acids* were formed in the cells. Recent researches have completely exploded the theory of Dr. Harley. Pigeons and geese were specially selected for the experiments owing to the peculiarity in the blood supply to their liver, which allowed it to be cut off without immediately producing any fatal result. The results of these experiments were, that not a trace of the bile-pigments could be found in the blood after ligatare of the vessels supplying the liver.

Jaundice has been classified under the heads of (1) *obstructive*, in which the flow of the bile on its way to the duodenum has stopped owing to some obstruction in the channel, the pent-up bile finds its way into the circulation; (2) *non-obstructive*, in which there are no palpable obstructions to be detected. In the *obstructive* form, the obstruction lies in the common bile duct or hepatic duct; it may be among others a gall stone, a plug of mucus or catarrh of the bile duct. The bile finding no outlet for its passage accumulates behind the seat of obstruction, and, as the pressure of the accumulated bile becomes greater it is absorbed into the circulation. English Pathologists held the view that the retained bile escaping through the walls of the minute bile-ducts, was absorbed by the branches of the hepatic veins and thence into the general circulation, whilst among the Germans it was an accepted theory that the bile was absorbed by the hepatic lymphatics and thence through the instrumentality of the *thoracic duct* into the general circulation, —*vide Strumpell's Medicine*. Be that as it may, at the last annual meeting of the *British Medical Association*, Dr. Vaughan Harley read a paper on *obstructive jaundice*, in which he described that after ligaturing the thoracic duct and the common bile duct, no bile could be detected in the blood. The conclusion which he arrived at from his experiments were that:—

(1). The pent up bile was absorbed by the lymphatics of the liver, and conveyed through the thoracic duct into the general circulation, and not by the blood capillaries as hitherto had been the accepted doctrine.

(2). The bile was not essential in the process of digestion, for animals whose bile-ducts had been ligatured not only lived, but thrived well and gained in weight.

As to the 2nd form, the *non-obstructive*, the hitherto accepted theory of the hæmatogenetic origin of the bile no longer holds ground, the recent doctrine does not recognize the question of non-obstruction as to the causation in the production of *jaundice* in this form. So the term "toxæmic" has been proposed to denote this form of jaundice by Dr. William Hunter of the London Fever Hospital, on the basis of his theory, that this form of jaundice is due to the action of certain poisons upon the liver cells. The pathology of this form has been worked at from the action of the drug *toluylenediamin* upon the liver of certain animals. From experiments upon animals by this drug it has been demonstrated, that the bile gradually becomes very thick and viscid and its flow ceases, and it is during this stage that the jaundice becomes most pronounced. Thus, the action of this drug leads to the theory that jaundice is due to the obstruction to the free flow owing to a viscid condition of the bile, and its final absorption into the circulation. And, so during the course of certain diseases as specific fevers, pyemia, &c., poisons are generated which by their actions upon the liver cells similar to that of the drug *toluylenediamin*, produce a viscidity of the bile, and this thick bile obstructs the onward flow of the bile into the duodenum, the consequence is that, it accumulates behind the seat of the obstruction, and is finally absorbed into the circulation producing *jaundice*. Absorption of the retained bile in the duodenum owing to constipation or some other causes, may originate this form of *jaundice*.

The distinguishing characters of these two forms of jaundice are, according to Dr. G. Harley, that bile-acids are only present in the urine in cases of *obstructive* jaundice, while bile-pigments are only found in the urine of *non-obstructive* cases. But his theory having been exploded, the distinctive characters pointed out by him can no longer hold ground. The only other point to distinguish these forms is by the character of the stools, which in the *obstructive* form are whitish or blackish in colour, whereas in the other form they have a tinge of yellow in them. The former form is by itself a separate disease, but the latter supervenes during the course of some other disease.

Treatment.—In the *non-obstructive* variety, hepatic stimulants are indicated, and purgatives later on, to hurry on the already accumulated bile from the duodenum. Among such may be mentioned, *acid nitro-muriatic dil, taraxicum, mercury, rhubarb, podophyllin, chloride of ammonium and sodii phosphas.* In the *obstructive* form, if the obstruction be slight, as due to catarrh of the bile duct or a simple plug of mucus, hepatic stimulants such as *rhubarb* may be adminstered on the hydraulic principle of raising the pressure in the bile-duct by the accumulation of the retained bile, and so pushing over the obstruction downwards into the duodenum. *Ipecac* too is used for its action on the mucus membrane of the gall bladder, and the hepatic duct, and helps to remove any obstruction from the mucus membrane of the ducts, thus paving the way of the bile downwards into the duodenum. *Calomel* is administered to hurry on the collected bile in the duodemem, and thus prevent its absorption by the portal circulation, and re-absorption into the general circulation through the instrumentality of the hepatic lymphatics and thoracic duct. *Sodii Bicarb* in a tumblerful of tepid water is very useful for its sedative action upon the liver, rendering the bile non-irritating by combining with it in the duodenun, and finally helping the bile onward in its course. Diuretics and diaphoretics are used to favor elimination of the bile by the kidneys and the skin, for if the absorption is greater than the elimination, there is an accumulation of the bile-elements in the blood, and these act deleteriously upon the nerve-cells of the brain, producing symptoms of *cholæmia.* Moreover, the bile-elements in their way of elimination by the kidneys may irritate the organs and produce congestion, so that, the kidneys themselves owing to their congestive state can no longer carry on the elimination of the bile in a satisfactory manner, the result is that, the primary function of the excretory organs remains in abeyance, and urea collects in the blood owing to defective elimination. Symptoms of *cholæmic* as well as *uræmic* poisoining may thus manifest themselves. Ultimately we are thrown upon the skin for any elimination of the dangerous materials in the blood. Of course, such a state of matters rarely takes place, but that these are not creations of an imaginary theory will be evident from the clinical history of one of the cases noted below. Sometimes it has happened that over-distension of the gall-bladder, owing to the accumulation of the bile from obstruction in the common bile duct, paralyses the muscular fibres of its walls, and this temporary paralysis renders the gall-bladder unable to empty itself. This mechanical paralysis may best be overcome by gentle manual pressure by the fingers over the region of the gall-bladder. But if there is reason to believe that there are gall-stones or other permament formations obstructing the passage, hepatic sedatives are to be administered, and measures undertaken for the removal of such by operative procedures. *Sulphate of soda* by its action upon the liver, and stimulation of the intestinal canal, is sometimes very efficacious in this form of jaundice.

I wish to cite four cases illustrative of the types and the treatment followed.

Case I.—An elderly female of bilious temperament had an attack of fever attended with bilious vomiting, and pain of a colicky character in the right hypochondriac region. The conjunctivæ and the urine were jaundiced. There was slight fever, ranging from 100° to 102°F. The vomiting was very troublesome. Whatever was swallowed was brought up the next moment. There was constipation and an unusual formation of gaseous products, which kept the abdomen quite distended and tympanitic. That this latter condition was due to the absence of bile in the intestinal tract there is no doubt. *Calomel, sodii phosphas* and *euonymin* were given in the form of pills, which moved the bowels slightly, the stools being whitish in appearance. The patient continued in this state for nearly a week without any abatement of the symptoms, but rather with some aggravation, as evidenced in the evening rise to above 103°F. Her friends being anxious, a consultation was held, *sodii bicarb* with *ammonnia chloride* and pills of *rhubarb* and *calomel* were ordered. At the same time *turpentine* fomentations over the abdomen, followed by the application of *ext: bellodonna* and *glycerine* over the liver, and linseed meal poultices; enemata of *turpentine* and *tinct assafœtida* were also given. This was continued for two days. Another consultation was held, and stimulation of the liver was no longer thought advisable. *Mag. Sulph.* in 2 drachms doses every 2 hours, and a diaphoretic mixture of *liq. ammon. acetatis* with *nitric ether* was ordered. This produced many copious motions of a whitish colour. As the temperature kept in the evening above 103°F, *phenacetine* in an 8 grains dose was given as often as the temperature rose above 103°F. On examination of the urine, albumen was detected, so it was thought inadvisable to adminster any stimulant diuretics. The condition of the patient was becoming critical. She was found the next morning more or less drowsy with marked dulness of sensibility and dilated pupils lying in an apathetic state, not cognizant of external impressions. There was no doubt that the drowsiness and other symptoms were due to bile-poisoning, and unless the skin could be made to act, the case was sure to end fatally. Therefore, *pilocarpine nitras* in 1/10th grain doses every three hours was administered. In the afternoon she had a convulsive fit of the face and upper extremities followed by temporary insensibility. This fit most probably was due to uræmic poisoning owing to defective action of the kidneys. The consulting physician was of opinion, that in case the internal use of *pilocarpine* did not produce the

desired effect, subcutaneous injection of *tabloids* of *pilocarpine nitras* of 1/10th grain must at once be resorted to. But such a procedure had not to be followed, as the internal use of the drug produced clammy perspiration. During the night the patient was very delirious uttering all sorts of nonsense at the top of her voice. The temperature rose to 104°F. *Phenacetin* had no effect in lowering the temperature, so ice-bags were constantly applied over the head. This had the effect not only of lowering the temperature, but ameliorating the delirious symptoms of the patient. A decoction of an Indian drug *swet punarnava* (Bœrhaavea Diffusa, *Linn.* N. O. Nyctaginacæ) was given in the form of a drink, which produced profuse diuresis. The crisis was over. The gall-bladder was felt for, it was found tensely distended and gentle friction with the finger was advised. The urine was again examined for albumen, and as the quantity of it was trifling, stimulant diuretics of *juniper* and scoparii were administered in addition to the decoction previously mentioned. The friction over the gall-bladder had the desired effect for the stools passed by the patient after the manipulation were purely green in color, consisting of nothing but thick bile. The urine too increased in quantity. The jaundice disappeared in a fortnight. The most interesting point was the supervention of symptoms of *cholæmic* and *uræmic* poisoning. The *cholæmic* poison is a depressant, of the nerve-centre but how it could have produced such a noisy delirium, is difficult to make out.

Case II.—An adult male was laid up with an attack of fever and jaundice, the temperature was 103°F., urine bilious, stools clay coloured. Diaphoretic mixture adminstered every 3 hours and pills of *calomel, rhubarb* and *ipecac* twice daily. On the 5th day, he became delirious, tongue cracked and dry. The delirium was of a muttering character. He continued in this precarious state for 3 days, when symptoms of improvement set in with a slight moisture at the edge of the tongue, The pills were continued twice a day, and in addition to these 20 grains of *sodii bicarb* in 5 ounces of tepid water was given as a drink. This served the purpose of fomenting the tissue, and hurrying on the bile in its way towards the duodenum. The fever gradually diminished in intensity, the urine became less bilious, the stools became yellow-coloured, and the patient was discharged cured.

Case III.—This was of an elderly female. Had previously complained of pain over the seat of the liver. Got an attack of fever with jaundice. Pills of *calomel and rhubarb* were ordered and *sodii sulphas* in 2 drachm doses t.d. The fever wore away after a week's treatment, the stools became yellow coloured, the urine and the conjunctivæ less so, till a fortnight after, when she was discharged cured.

Case IV.—An elderly man used to attend the local dispensary for treatment of a slight yellow tinge of the conjunctivæ. The urine was bilious and the stools whitish in colour. He had no fever previously. Put on pills of *calomel* and *rhubarb*. After two days the gums were affected and he had salivation. The pills were stopped and *sodii sulphas* in 2 drachm doses 4 times a day were administered. This was continued for a fortnight, when the yellow colour of the conjunctivæ had passed away, as well as that of the urine; and the stools had resumed their natural colour.

OPHIOLOGY
OR
A DESCRIPTION OF THE SNAKES OF INDIA.

(*Continued from page 77, Vol. II.*)

By R. P. Banerjee, B.A., G.B.M.S.L.
Pachbadra, Rajputana.

GENERA OF SNAKES.

SPECIES AND VARIETIES.

1. *Typhlinæ.* Wagler.—Rostral large, preocular absent, nostril inferior.

(*a*) *T. Lineata.* Boie.—S 22; T 405; size over a foot. Color dark-brown or olive; head and belly pale-yellow.

2. *Typhlops*, Dumeril and Bibron.—Rostral large, nostrils lateral.

(*a*) *T. Nigro-albus.* D. et B.—S 26; T to 353; size, slender 14 long. Colo-slate, belly yellow.

(*b*) *Horsfieldii.* Gray.—S 26. T 353; size a little larger than preceding. The nasal and frontals amalgamated into one and often indistinct. Color variable.

(*c*) *Bothryorhinchus*, Günth.—S 24: grooves below the snout. Color brown olive.

(*d*) *Striolatus*, Peters.—S 24; each yellow, with black streaks.

(*e*) *T. Siamensis.* Gthr. S 22; very slender, color grey, olive yellow under the belly.

(*f*) *T. Braminus*, Daudin. S 20; Frontal and nasa separate. Color brown, belly paler.

(*g*) *T. Pammeces*, Gthr. Similar to the preceding, but very slender.

(*h*) *T. Mirus.* Jan. S 18. Preocular present, color brown, snout colored yellow, moderately slender.

3. *Onychocephalus*, D. et B.—nostrils inferior, rostrals trenchant anteriorly.

(*a*) *O. Acutus*, D. et B. S 29; T to 500, moderately slender, dorsal scales pale in the centre, color light bronze.

4. *Cylindrophis.* Wagler. Nasals united or one; occipitals very small. Frontals encroaching on the orbit.

(*a*) *C. Rufus*, Laurentius. S to 21; V to 200, Subc 9, color brown or olive, belly irregular or banded white.

(*b*) *C. Maculatus.* Linnœus. Inter-ocular space equal to the length of the snout. S 21. V to 196. Subc to 6. Color usually brown with black cross bands, belly white.

5. *Python.* Daudin. Body stout, large, occipital rudimentary, other shields, rostral and labials pitted, ventrals narrow, anal entire.

(*a*) *P. Reticulatius*, Schneider. S to 75; V to 330; Subc to 102. 2-3 shields between posterior frontal and the occipital.—labials 15, 4 pitted; post-orbital black-streak, color dark brown, vertebral chain of black bars enclosing white ocelli. Size to 20 feet.

(*b*) *P. Molurus.* Linn. S 65; V to 262; Subc 72; L 12, 2 pitted, sometimes a sub-ocular present. V shaped brown mark on the head, color dark brown. 3 rows of quadrangular spots on the back and sides. Size to 20 feet, often very thick.

6. *Gongylophis.* Wagler.—Head flat, oblong not distinct from the neck, scales keeled, no mental groove.

(*a*) *G. Conicus,* Schneider. S to 53; V to 186; Subc 23; L 15 small; shields consist of 1 R 2 F, orbit surrounded by scales, color grey, irregular chain along the back, reddish blotches. Belly white. Size over 3 feet.

7. *Cursoria.* Gray. As gongylophis, but scales are smooth.

(*a*) *C. Elegans,* Gray. Scales 36. V 180; Subc 21; L 15; Color grey or pale brown, red blotches along the back. Size over two feet.

8. *Eryx.* D. et B.—Head not distinct from the body, snout btuse or conical, edges sharp. Scales keeled, mental groove present.

(*a*) *E. Johnii,* Russell. S 65; V to 209; Subc to 36, tail cylindrical, color dark olive, belly with many dots or black confused bars. Size to 4 feet.

9. *Acrochordus,* Hornstedt. Tail compressed, scales with triangular keel like a spine.

(*a*) *A. Javanicus,* Honstedt. Nasals simple; rostral notch, one central above, 2 lateral below, color dark brown, large confluent dark spots on the body. Size to 8 feet. Habit terrestrial, fruit-eating and viviparous.

10. *Chersydrus.* Cuvier.—Tail compressed, and fold of skin running along the lower side, scales keeled and tuberculate.

(*a*) *C. Granulatus,* Schneider. S 100, Ventrals with spines, much resemble "acrochordus." color dark grey, belly yellow, crossing all about. Habit generally aquatic.

11. *Rhinophis,* Hemprich.—Head conical, supercilliary and post-ocular confluent, nasal separate from rostral. S to 19 V to 230; Subc 10 or 4, size over a foot.

(*a*) *R. Oxyrhynchus,* Schneider. Rostral very large, keeled, color brown.

(*b*) *R. Punctatus.* Müller. Color yellow scales with black dots.

(*c*) *R. Planiceps.* Peters. Rostral short, not keeled; color dark olive.

(*d*) *R. Trevelyanus.* Kelart. Similar in structure to preceding, color black with white triangular spots on the sides. Belly white, sometimes spotted.

(*e*) *R. Sanguineus,* Beddome. Rostral shorter, color black belly white with red streaks, caudal shields black and yellow with red edges.

(*f*) R. *Blythii,* Kelaart. Same as preceding, caudal shields small. Sometimes keeled.

(*g*) R. *Pulneyensis.* Beddome. Snout obtuse, caudal shield small, color brown or olive, yellow bands on the sides, sometimes blotches.

12. *Uropeltes,* Cuvier.—Conical head nasals united supc. and postoc united, tail truncated, disc flat and without scales.

(*a*) *U. Grandis,* Kelaart. S to 23; V to 148. Subc to 8 often bifid, color brown or dark olive with white or lemon blotches, size about 2 feet.

13. *Silybura,* Gray et Peters.—Conical head, supc. and postoc united, tail truncate, disc ending a bispinous scale.

(*a*) *S. Mcolpis,* Peters. S 15. V 136 color black with yellow stripes.

(*b*) *S. Beddomii.* Gthr. S 17; V 176; R much larger and keeled, color brown specked with white dots and yellow stripes on the sides, belly yellow,

(*e*) *S. Ocellata*; Beddome. S. 17. V. 195, R. smaller color olive or brown, lateral yellow, ocelli sometimes with black edges.

(*f*) *S. Ellioti,* Gray. S 17, V. 166. R. smaller, color brown with yellow streaks at the sides, sometimes a caudal ring present.

(*g*) *S. Bicatenata.* Gthr. S 17. V 135; color black, belly black, yellow stripes or blotches on the sides.

(*h*) *S. Shortii.* Beddome. S 17. V 139, labial 4 larger, color black and white, yellow stripes on the sides.

(*i*) *S. Brevis,* Gthr. S 17. V 122, small, color brown, yellow belly, subc. black with white lines.

(*j*) *S. Canarica,* Beddome. S 15; V 154; caudal disc laterally compressed ending in 2 spines, color brown, belly yellow, and sides with yellow stripes.

14. *Plecturus.* D. et B.—Head conical, nasals contiguous superc: and postoc: distinct, tail compressed, ending in the two sping scales.

(*a*) *P. Perotetii*; D. et B. S 15; ? V to 161, subc. to 11; color brown or dark olive.; size a foot.

(*b*) *P. Guntheri.* Beddome. As preceding, color purple yellow below, yellow trigonal marks on the sides.

15. *Melanophidium.* Gunther.—Snout obtuse; N confluent supc and postoc united, mental groove present, tail ending in a spine.

(*a*) *M. Wynadense,* Beddome. S 15? V 180; color black, hinder part white.

(*b*) *M. Bilineatum,* Beddome. S 15? iridescent, yellow lateral stripes, size variable.

(*c*) *M. Punctatum.* Beddome. S 15, V 186; subc 17, iridescent, 3 black lateral lines, belly yellow.

16. *Xenopeltis,* Renwardt. Shields like scales, large preocular. S 15; anal and subc bifid.

(*a*) X. *Unicolor.* Reinw. S 15. V 180, subc 30, iridescent, color brown, belly white or pale yellow, size above one foot or variable.

17. *Calamaria*; Boie.—Nasal single, loreal absent, 1 pre-oc: 1 post-oc: Frontals 1 pair, scales 13, smooth, subc: double.

(*a*) *C. Siamensis,* Gthr. S 13. V 191, subc: 20; labials 4; color brown with black lines with white or yellow edges, belly light colored and speckled.

(*b*) *C. Quadrimaculata,* D. et B. S 13, V 145, subc 13; labials 4. 4 white caudal marks.

(*c*) *C. Albiventer,* Gray. S 13. V 160; subc 16, labials 5, color brown, belly white with red stripes.

(*d*) *C. Nigro-Alba*, Gthr. Ventrals 166. subc 30; labials 5, color black, belly white.

(*e*) *C. Leucocephala*. D. et B. V. 136, subc 37, head white.

18. *Macrocalamus*. Gthr. Head narrow, pointed, F two pairs; loreal confluent with post frontals; 1 preoc : 1 postoc : labials, 5, scales 15, Smooth. Sub-caudals double.

(*a*) *M. Lateralis*, Gthr. V 188; subc 20; color brown, white lateral lines or dots.

19. *Oxycalamus*. Gthr. Head narrow. F 2 pairs, loreal blended with posterior frontals. S. 15, smooth. 1 preocular 1 postocular, laibals 5, not represented in India?

20. *Geophis*, Wagler. F normal, nasals 2; pre-oc: and loreal united; scales to 17, smooth, subc double.

(*a*) *G. Microcephalus*. Gthr.—S 13; V 148. subc 78. color dark brown, ventrals white, buccal yellow stripes, rare.

21. *Aspidura*, Wagler.—Single anterior frontal united to loreal, postoc 2; preoc 1; labial to 6, nasals small 2; S 15 to 17, smooth. Subc entire.

(*a*) *A. Brachyorrhos*, Boie. S 17. V 154; subc 30; color yellow olive, vertebral white dots and dark stripes on the sides.

(*b*) *A. Copii*; Gthr. S 17. V 128; subc 84. Preoc : united to post frontal, gular 3 pairs, color brown, dorsal black spots, belly white, rare.

(*c*) *A. Trachyprocta*, Cope. S 15, V 144; subc 23, preoc : small; color brown, 3 rows of dark spots.

22. *Haplocercus*, Gthr.—Anterior frontal one, united to loreal, post-oc 2, pre-oc 1; labials 7, nasals 2 small; Scales 17, and keeled, caudal entire.

(*a*) *H. Ceylonensis*, Gthr. V 208, subc 45, color brown vetebral black stripe, black spots on the back, white streaks on the neck, belly pale yellow.

23. *Ferdonia*, Gray.—Head shielded, nostrils superior, nasal single, one anterior frontal small and confluent to rostral, labials 5, scales to 29.

(*a*) *F. Unicolor*. Gray. S 25 to 27. V 140-156, subc 37, labials 5, 3 loreal present? Color brown, belly white.

(*b*) *F. Bicolor*. Theobald, labials 5, color yellow grey, dark spotted, sides and belly white.

24. *Cantoria*, Girard.—Head shielded, anterior frontal single, and united to rostral, eyes small, orbital circle complete, labials 5, scales 19, smooth.

(*a*) *C. Elongata*, Gthr, ventrals 278; subc 84; color red or violet and crossbands or white dots, belly yellow or white.

(*b*) *C. Dayana*, Stolicska. V 286; subc 56; anterior frontal linear. V hexagonal, post-oc 2; color dull yellow with broad blue bands, belly yellow.

25. *Cerberus*, Cuvier. Occipital scaly, anterior frontals 2, nasals 2, united; orbitale complete; posterior labials bifid cleft of the mouth turned up posteriorly, scales strongly keeled and 21-25.

a C. Rhynchops. Schneider. S 23-25; V to 148. Subc 62 V broken up, labials 10, color dark ash with crossbands, belly lighter.

26. *Ferania*. Gray. Head small, body stout, nasals large and united, anterior frontals 2. scales 27 smooth.

(*a*) *F. Sieboldii*. Schlegel. V to 156; subc : to 55, color white, 32 vertebral brown, large black bordered spots. Head has two diverging streaks <.

27. *Pareas*. Wagler. Cleft of the mouth short, shields regular, scales 15, smooth, vertebrals large 6. Subcaudal bifid, nasal single.

(*a*) *P. Monticolus*, Cantor. V 194, subc 87, loreal none, but a large preoculor present, orbitale incomplete, color brown. Y shaped bars, belly white.

(*b*) *P. Lævis*. Kuhl. V 150, subc 46; loreal absent, labials 2 encroaching on the orbit, color brown with black crossbands, belly white with dark lateral spots.

28. *Oligodon*, Boie. Nasals 2 united partly, preoc 1, postoc 2, rostral encroaching on frontals, scales 15-17, length usually 15 inches, palatine teeth absent.

(*a*) *O. Subgriseus*, D. et B. S 15, V 180; Subc 54; labials 7, color brown with crossbars, belly white, tail small.

(*b*) *O. Spilonotus*. Gthr. S 15, V 162; labials 7; 17 vertebrals, figure of eight spots alternating with cross lines, belly white.

(*c*) *O. Ellioti*. Gthr. S 15, V 162, subc 49. Labials 7; 37 Rhombic vertebral spots, belly white.

(*d*) *O. Subpunctatus*. D. et B. S 15, V 169. Labials 8, color grey series of black white edged spots, belly white, dark blotches laterally disposed.

(*e*) *O. Fasciatus*, Gthr. V 180, labials 7, color brown, 27 crossbands with vertebral stripes, belly white with dark blotches.

29. *Simotes*. D. et B.—Anterior frontal small, and encroached upon by the rostral, nostrils between 2 nasals. Scales, smooth 17-21, ventrals with lateral keel V mark on the head. Palatine teeth present, labials 7.

(*a*) *S. Venustus*, Jerdon, S 17, 145, anal often bifid, color brown, 3 rows of black yellow edged spots, belly white with dark square blotches.

(*b*) *S. Russellii*. Daudin. S 17. V 190; subc 46; anal bifid, color brown, 20 crossbands, belly white, black fillet through the eyes, head markings, size variable, generally 2 feet.

(*c*) *S. Binotatus*. D. et B. S 17. V 18; anal bifid; rhombic spots, belly white and peculiar head markings.

(*d*) *S. Trilineatus*, D et B. S 17, V 145, anal entire. Brown color, yellow vertebral stripes.

(*e*) *S. Punctatus*, Gray. S 19. V 202, subc 62, anal entire, color brown, 20 light or steel bands, belly white with square blotches, head light colored. Size above 2 feet.

(*f*) *S. Albocinctus*; Cantor. S 19; V 181, subc 65; anal entire, color brown with 18 white dark edged marks, belly white or spotted, head markings present.

30. *Lycodon*. D. et B.—Body flat, head distinct and depressed, snout flat and spatulate, scales 17, smooth, eyes small, pupils erect.

(*a*) *L. Aulicus*. Linn. V 183-209, Subc 77; anal bifid pre-oculor encroaches on the vertical, eyes small. Color chocolate with yellow or white crossbands, belly transparent and flesh colored interstitials. Size very variable, sometimes mistaken for young Bungarus.

(*b*) *L. Striatus*. Shaw. V 167, subc 48; Pre-oculor, falls short of the vertical.

31. *Tetragonosoma*, Gthr. Shields regular, loreals absent, scales 17. smooth V 200, angulated, anal not divided, flat.

(*a*) *T. Atropurpureum*, Cantor. V 257. subc 91, color deep purple, marked with alternate dark and light bands.

32. *Leptorhytaon*. Gthr. Loreal present, nasal single. scales 17, smooth, anal bifid and large.

(*a*) *L. Jara*, Shaw. V 167 to 175; subc 63. Color brown scales dotted, marks round the neck, belly white.

33. *Ablabes*. D. et B., Gthr. Body slender, head distinct tail moderate, shields normal, nostrils between 2 nasals. 1 loreal S 13-17; smooth V 122 to 245, anal and subc divided, teeth ∞ small, length 1 to 2 feet.

(*a*) *A. Tenuiceps*. Blyth. S 13, V 137, labials 6, scales near the vent and tail carinated, color blackish grey, belly white.

(*b*) *A. Fuscus*, Blyth. S 13; V 154; subc 42; labials 6, posterior frontal amalgamated [hence Gthr's Calamaridian, Trachischium fuscum.] Color black, light below.

(*c*) *A. Rapii*, Gthr. S 15, V 198; subc 60. Labials 6, color black above, white below.

(*d*) *A. Bicolor*, Blyth. S 17; V 221; subc 80, labials 6. Frontals united to transverse plates and form Theobald's Calamoridian Grotea bi-color. color brown above, white below.

(To be continued).

A Mirror of Practice.

A CASE OF SCARLETINA.

By R. Nugent, L.R.C.P., L.R.C.S., (Edin.)
Late House-Surgeon, Howrah General Hospital.

The patient a well nourished, married woman, *æt* about 20 years, has been in indifferent health of late, owing to suffering from slight febrile attacks occasionally. One morning she felt her throat sore and painful, and attributed it to drinking some lemonade the night previous; she also observed the glands near the angle of jaws enlarged and painful on pressure, swallowing liquids even caused pain. Thinking that it was only a simple sore throat, which she was subject to, she took no notice of it the first few days. The next day, 10th January 1893, throat symptoms increased in severity, fever set in, temperature varied from 100 to 102F, feels worse, tongue dry and covered with a white fur, great sense of heat and dryness of throat, nausea and disgust for food. Excessive thirst, bowels relaxed. On examining the throat both tonsils were very red and swollen, fauces much congested, no ulceration, breath slightly offensive. Treatment—swab throat, sol. arg. nit (3ss to 3i), liniment iodine to swollen glands of neck, steam inhalation and a diaphoretic mixture, with potass bromide to be given every third hour. Low diet.

11th January.—Pain in the throat still severe, glands on each side below angle of jaws less swollen, not so much pain when swallowing, appetite still dull. Tongue whitish, bowels not so loose. Skin appears cool, but the thermometer indicates a temperature of 103F, feels a sense of heat and dryness about throat accompained with thirst and longing to suck ice, which appears to allay this symptom. Omit steam inhalation, apply hot bran fomentations, repeat sol. arg. nit. to throat.

12th January.—Slight improvement of the throat symptoms, and glands of neck not so painful and swollen. Temperature 103 F. Bowels slightly loose. Treatment continued, also gave a dose of antifebrin 3 grs.

13th January.—This morning discovered a profuse punctiform red rash fading on pressure about the upper and front part of chest, the neck and both arms; faintly on the extensor surface of forearms, rash iritable. Looking at the throat the tonsils, fauces and mucous membrane of pharynx presented a livid and congested appearance. Tongue as before whitish, morning temperature 103F, in the evening rose between 105 and 106F. I gave a dose of Phenacetin grs. 8, to be repeated in three hours if necessary.

Now the question arose what was the diagnosis ? I faltered; first suspecting measles, then some form of roseola, erythema or erysipelas; again having the previous night given a dose of antifebrin, I thought this may have produced this redness of the skin, as I have met with such cases before. I reserved my opinion.

14th January.—This morning on seeing the patient, she said she felt worse. Expression anxious. Pulse small and frequent, respiration normal. Tonsils much swollen and congested, on the surface of the right tonsil I noticed a small ulcer, covered by a thick yellowish slough, which I easily removed. All the surrounding parts intensely inflamed, pain in swallowing increased, especially on the right side. Now complains of a dry harsh and irritable cough. Rash extending to upper part of back. Tongue unaltered, whitish, temperature 104. 2 F, skin dry and hot, swelling of cervical glands diminished, bowels open twice, loose. I prescribed, a sedative expectorant to be taken when cough was troublesome. Discontinue ice. Repeated inhalation of steam and hot bran, touched throat with sol. arg. nit.

15th.—Feels no worse. Temperature continues high, 104 to 105F. Skin dry, no sign of perspiration, had a rigor this morning about 3 a. m., followed by the usual febrile state. Rash is distinctly visible on arms, forearms and dorsal surface of hands, faintly on legs below the knees and dorsum of feet, these parts are not so itchy as the parts affected on the trunk. Complains of a severe headache and stiffness about the neck, cough dry and iritable, throat much congested, right tonsil swollen and small ulcers on its surface, looking healthier, left tonsil not so swollen and painful, glands below angle of jaws still a little swollen. There is a faint redness perceptible on the forehead and cheeks. I now felt convinced from the history and symptoms this was a case of scarlet fever. Not seeing or reading of many cases out here, I was very doubtful from the first, although, I may add in passing, that as soon as the rash made its appearance, precautionary measures

were taken to prevent the spreading of the contagion among the relations living in the same house.

Treatment.—Phenacetin, 8 grain doses every 3rd hour, if temperature above 103F, also a mixture containing pot chlor. tinct: ferri perchd, and glycerine 3 times a day. Save urine.

16th.—This morning I tested the urine, it contained a small quantity of albumen and shreds of mucus. Cough is easier, and large lumps of thick tenacious mucus is expectorated. Tongue is now very characteristic, strawberry like in appearance, rash is visible on front and upper part of chest, about axillæ, arms, forearms, hands, legs and feet.

Right tonsil still swollen, studded with small ulcers and some greyish sloughs, fauces, and mucous membrane of throat presents a livid hue, cervical glands about angle of jaw a little enlarged, but not painful; feels better in every respect, little or no fever. Treatment continued, apply glycerine and tinct: ferri to throat occasionally. Omit sol. arg. nitras.

17th January.—Is much improved, expression brighter and in better spirits, urine contains a trace of albumen, the rash has disappeared from the face, but is still visible on the trunk and upper extremities. This morning the rash has made its appearance on both thighs chiefly the inner aspects, similar to the other parts, but not so irritable. The parts where the eruption originally appeared, viz, upper and front of chest, neck, and about axillæ, are very irritable and have started to desquamate, peeling off in some places in large patches. Throat symptoms easier, surface not so livid and congested, swelling of cervical glands near jaw scarcely perceptible. Tongue cleaning, healthier in appearance, appetite improving, no fever. Carbolised oil to be rubbed into parts desquamating.

18th.—Progressing favorably, cough is rather harassing, chest sounds a little harsh, otherwise no abnormal sounds audible. Uvula elongated and relaxed. The throat, fauces and tonsils are not so red, no pain in swallowing, cuticle is coming away in large flakes on the trunk, bowels constipated. Added magnesia sulphas to tinct. ferri mixture.

22nd.—Feels quite well now and is impatient to get out of bed, the surface of body was well smeared and rubbed down with carbolised oil followed by a hot bath, this removed the desquamated skin only from the trunk and arms. It appears from the lower extremities, especially from the legs and feet, the skin is coming off easily in large ribbon-like strips, without causing the least pain or inconvenience. The patient apparently takes an interest and delight in sitting for hours engaged in this scaling performance, and after collecting a large quantity it is carefully burnt to prevent infection.

2nd February 1893.—The process of desquamation is still in a less degree going on, about the forearms, hands, both palmar and dorsal surfaces, and lower extremities.

Up to the present date, the other members of the family and friends are quite well, also her two children, one a young babe 9 months old, and the other about 2 years, which is occasionally in contact with her mother, have not shown the least signs of illness. I cannot venture to prognosticate the future results, under the belief as stated in books, that scarlet fever is highly contagious. The peculiar lividity of the fauces has not quite faded as yet. I find also two cervical glands on the left side much enlarged and painful on pressure, also some pain on swallowing, otherwise the patient feels hearty and nearly as well as ever. Hot baths ordered daily to hasten desquamation.

Remarks.—This case is unique from its rarity in this country and it may be remarked before closing this paper about the locality in which this case of scarlet fever was contracted, though in a main public thoroughfare, there exists a large *kutcha,* dirty, offensive drain in an insanitary and neglected condition, also there are open matted native latrines in close proximity to the kitchen, which would probably account for the causation of this serious malady; another predisposing cause which struck me is, that the patient has not noticed her menstrual flow, for several months and when present is very scanty and irregular. Her mammæ are so engorged, that she is afraid to stop nursing her child, this would interfere and cause suppression of the catamenia, therefore I imagine this long suppression and irregular menstruation, may have something to do with the disordered state of the constitution, thereby probably predisposing to the development of the disease. I am informed by the mother that the patient also suffered from this disease during childhood, which perhaps accounts for the mild character and favourable termination of the present attack.

Kidderpore, 8th February, 1893.

GANGRENE OF THE SCROTUM.

By A. P. Das, L.M.S.

Late Assistant-Surgeon, Chandney Hospital.

Woomesh, an healthy adult male, aged 45 years, an inhabitant of Howrah District. Came under my treatment on the 9th of January last, suffering from inflammation of inguinal glands of both groins with high fever. *Previous history.*—No history of scrofula, syphilis, or gonorrhœa, acquired or congenital, body well built, and of medium size, habits sober, no history of malaria, rheumatism, or diabetes. About 15 years back, he had a swelling and inflammation of the inguinal glands of both groins with fever, but it was not attended with any thickening or inflammation of the scrotum or hydrocele.

When I saw him first he had high fever, the temperature was 104, the inguinal glands of both groins were swollen and tender to the touch, but the cutis over it was normal. Pulse full and bounding, constant desire to vomit, tongue coated with white fur. I prescribed an effervescing mixture with liq: ammonia 3ii and spts. ether, nitrosi; belladonna and opium with glycerine to be applied over the inflamed glands. On the 10th morning I found his temperature 102°, bowels moved twice, vomiting less and the swelling and tenderness the same. I examined the scrotum to find whether there was any inflammation of the skin or testis, but found nothing. I directed the same mixture to be continued and the same paint to be applied. On the evening of the 10th, I found his temperature was 104°. I prescribed one dose of 8 grains of antife-

brin which reduced the fever to 102°, and the same mixture was continued.

On the 11th morning I found the scrotum a little swollen and red, the temp was 102°. Pulse was 110°, full and bounding, excessive thirst, urine high colored and scanty, tongue coated with brown sordes, patient was restless and delirious at times, the swelling in the groins was less, the first sound of the heart was week, bowels clear. I prescribed him bark and ammonia and vini gallici 2 ozs with plenty of milk and broth; and belladonna, opium and glycerine to be painted over the inflamed scrotum. In the evening the temperature was 102°, inflammation and other symptoms was the same.

On 12th morning the scrotum was more swollen, the swelling of the glands in the groins had almost gone down, but the tongue was dry, furred and coated with brown sordes, eyes red tinged, thirst excessive, bowels moved once, pulse 115. On parts of the scrotum the skin had peeled off and a watery fluid was exuding, the prepuce and skin of the male organ was œdematous. The scrotum was the size of a small cocoanut.

I made free incisions in six places to relieve tension, then dusted the parts with iodoform, and bandaged with boracic cotton and prescribed brandy ʒiii, and bark and ammonia, carb. broth and plenty of milk; but the carbonate of ammonia, gave him 3 loose motions, so in the evening I substituted spts. ammon : carb : for it.

On the 13th morning.—The lower part of the scrotum had commenced to slough, temperature was 102, pulse short and quick, 120; tongue coated with thick brown sordes, delirious and restless, thirst excessive, slight fœtor from the dressing. On that day I changed the dressings twice. I suspected sugar in his urine and examined it, but found no sugar, albumen, or any other abnormalities, and decreased his brandy to ʒiv in 24 hours. Has plenty of nourishments, bark with spts, ammon, ether chloric and tinct digitalis, but in the evening when I saw him to change the dressing, the slough had invaded 2/3rds of the scrotum.

On the 14th morning.—I found the whole scrotum and a part of the prepuce invaded by a slough and a watery fluid very fœtid, was freely exuding, the general condition was worse, pulse short and quick, 130, tongue thickly coated with brown sordes. Bowels not moved, there was slight puffiness of the abdomen with hurried breathing.

The scrotum and the penis were dressed antiseptically and I increased his brandy to 6 oz. in 24 hours with 2 tins Brand's Essence, and plenty of milk. The previous day's mixture was continued with aqua menthæ pip. In the night the flatulence increased, the pulse began to sink, and he died at 1 a. m. on the 15th.

Remarks.—I place this case before the Profession, to shew that gangrene of a severe type may ensue from sympathetic inflammation, in a case where there is no diabetes, syphilis, or any other weakening causes, like a similar kind of gangrene which we often see from extravasation of urine.

ABBREVIATED NOTES ON SUPRA-PUBIC OPERATIONS FOR STONE IN THE BLADDER.

Performed By Assistant-Surgeon T. M. Shah,
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Kathiawar.

(Continued from page 81, Vol. II.)

Case VIII.—Lakha Mawji, H, Male, *æt* 36 years, resident of Gadhkada, Junagadh District. Has had stone in bladder for 6 or 7 years.

1st May 1891.—Operation of litholapaxy performed without chloroform. Operation lasted for 4 hours, the stone was not even then completely crushed and the operation was left unfinished. The diamater of stone being 1½ inch, it was very hard. Lithotrite No. 15 and 12, and catheter No. 15 and 10, were used. Fluid withdrawn red. Quantity of debris aspirated 192 grains.

2nd. Slept fairly. No hypogastric tenderness. Passed a quantity of debris. Is in good spirits.

3rd. No fever. Did not sleep owing to pain while making water. Urine is reddish in colour.

6th. Operation. Lithotrite introduced in order to crush the remaining fragment, but the introduction was painful. Chloroform was therefore administered and lithotrite No. 12 and catheter No. 15 introduced thrice. Largest fragment ¾ inch in diameter. Fluid withdrawn, bloody. The stone appeared to occupy the anterior part; when the lithotrite was rendered quite horizontal, bringing the point of it against the anterior wall the stone could be sized. On sounding the bladder and trying to move the stone it seemed to be fixed as if adherent. Time occupied 2 hours. Debris aspirated 69 grains. Still fragments left.

7th. Slept badly. No vomiting. Urine not passed since last night. Bowels not moved. No hypogastric tenderness. Complains of pain in the urethra while making water. Is in good spirits.

4 P.M.—Some hypogastric tenderness. Temperature 103°F.

15th. Suffers from fever and excessive pain. He is looking haggard and losing flesh. Urine is scanty. As he has been subjected to two operations of litholapaxy, it is decided to terminate his sufferings by operation.

Suprapubic Operation :—13th May, 1891. Patient put under chloroform, morphia injected hypodermically, and suprapubic operation performed. Bladder filled with 6 or 7 ozs o fluid, and rectum stuffed with a wetted sponge. Incisions made as usual, bladder opened, remnant of stone extracted, drainage tube retained and abdominal wall stitched; weight of stone 225 grains, 1½ inch in long diameter, iodoform dressing applied. During the operation loop of intestine appeared to protrude in the upper part of wound.

14th. Features are pinched. Hands cold. Surface of the body warm. Slept well, is much exhausted. Hypogastrium is tender. Breathing thoracic.

Evening temperature 100°6. Pulse 84, compressible.

21st. The whole quantity of urine passes through urethra. Health improving.

11th June.—Swelling of the penis, face, and lobules of the ears.

12th. Swelling of the face is increased and has an erysipelatous blush. Complains of pain and heaviness in the swelling.

13th. Vesicular eruption, itchiness all over the body.

17th. Swelling of the face gone down, itching subsided. Bowels regular, eruption dried up. Discharged well.

Case IX.—Bhagwan Giga, H, Male Child, aged 10 years, from Sidhaj Kodinar. Suffered from symptoms of stone in bladder for 3 years, is very lean and emaciated.

13th May 1891.—Put under chloroform and suprapubic lithotomy performed, 7 ozs. of fluid injected into the bladder, and rectum filled with moist cotton. Bladder opened in the usual way, fluid escaped, finger introduced, stone weighing 199 grains removed. Catgut sutures applied to muscles and silver wire suture to skin. Drainage tube introduced into bladder. Iodoform dressing and bandage applied.

14th. Vomiting. Slept badly. No fever, Temperature 98°6. Evening Temp. 101°6. Is drowsy.

18th. Urine passed from wound. Slept well. Dressing changed. Progress good.

22nd Temperature 100°, Catheter passed. No urine through urethra, all through wound. Urine smells ammoniacal, patient is weak and losing flesh.

Evening Temperature 102°4.

3rd June.—Urine began to pass through urethra and the wound getting healthy.

12th. Had slight fever. Bowels moved thrice. General health improving.

20th. Wound is much healed. Urine passes through urethra. Child improving. Discharged well.

Case X.—Kala Jiva Dhed, Male, aged 60 years, from Shil, Junagad. Has had stone in bladder for 2½ years.

8th May, 1891.—Put under chloroform and morphia injected under skin. Lithotrite No. 10 passed into bladder. The stone which was close to the neck was too large for the grasp of the instrument. High operation was therefore performed. Fluid injected into bladder and rectal cavity plugged with sponge, staff passed into bladder, which was opened as usual from the ventral aspect, and stone weighing 962 grains was removed by forceps. Drainage tube retained in bladder. Sutures and dressing applied.

9th. Slept well. No hypogastric tenderness, is in good spirits. No vomiting. Urine passed through tube.

Evening Temperature 103°4.

11th. Dressings changed. Sutures in tact. No pus.

14th. Tube removed. Improving.

10th June.—Greater portion of urine passes through urethra. Discharged well.

Case XI.—Banesing Khumabhai, H, Male, aged 50 years, from Limbdi District. Stone in bladder for 1 year. *Urine*:—Sp. gr. 1015, reaction neutral, contains mucus and pus.

29th August, 1891.—Warm water enema in the morning, patient much debilitated by urinary troubles. Put under chloroform and morphia injected under skin. Catheter passed into bladder, which was then filled with warm water and lotion. Rectum filled with sponge and bladder opened through abbomen as usual. A large oval stone weighing 1834 grains removed by forceps, its length was 2½ inches and breadth 1¾ inches. Bladder washed out thoroughly, catgut sutures to muscles and horse hair sutures applied to skin wound. Drainage tube kept in bladder. Dressing applied and patient removed to bed.

30th. Breathing thoracic, extremities cold, incoherent, urine passes through wound of hypogastrium. Hypogastrium tender, pulse small and slow. Abdomen tympanitic. Died of peritonitis at 4 p. m.

Case XII.—Meghji Jivraj, H, Male, aged 40 years, of Jamnagar District, suffered from symptoms of stone in bladder for 1½ year.

15th September, 1891.—On sounding the bladder stone detected. Lithotrite introduced but the stone being large and almost immovable, lithotrite could neither play nor could it bite the stone. Suprapubic operation was therefore performed with the usual preliminaries and precaution, large stone was seized by forceps from which it slipped 4 or 5 times and was ultimately extracted. It weighed 2210 grains. It measured 7 inches in long circumference, and 6 inches in short circumference. Loops of intestine protruded from the apex of wound. It was put back. One suture applied to bladder, drainage tube retained, Muscular sides of wound brought together by catgut sutures, and skin margins by silver sutures. Abdominal bandage completed dressing.

16th. Temperature 101°, pulse 100. No vomiting. No marked hypogastric tenderness. Slept fairly. Urine passes from tube. Patient was under the influence of morphia and chloroform all night. Woke up in the morning.

Evening temperature 102·6. Has got tympanitis. Urine does not pass through tube. It passes through wound.

17th. Temperature 99·8, pulse 102. Respiration 26. Slept fairly well. Urine passes through wound. Abdomen tympanitic. Breathing thoracic and abdominal.

Evening temperature 98·8, pulse 104. Slight hiccough.

18th. Temperature 100·, Pulse 132, Resp. 30. Slept well. Bowels not moved. Abdomen tympantic. Urine passes through wound. Hiccough less. Took some milk yesterday. Evening temperature 98·2.

19th. Temp. 99·6, pulse 112, Resp. 28. Did not sleep well owing to constant hiccough. Hiccough is troublesome, and there is frequent vomiting. Passed wind freely. Distension of abdomen. Dressing changed yesterday. There is swelling round the wound. The sutures are in tact.

Evening temperature 99·2, pulse 120. Has incessant hiccough. Bowels moved thrice since the morning. Stools liquid. Died at 11 P.M.

Case XIII.—Mansoor Mepa, H Male, aged 15 years, of Bhawnagar District. Suffered from symptoms of stone in bladder for one year.

22nd April 1892.—Put under chloroform, morphia injection No. 5, put under skin. On introducing sound, stone felt blocking up the passage of neck of bladder. In fact a part of stone

was prolonged evidently through the internal meatus. On rectal examination a large globular stone, immovable, was found fixed in the anterier wall of rectum causing a rounded protuberance in the rectal passage. Stone large as well as fixed, lithotrite was therefore out of question and perineal lithotomy was also risky. Suprapubic operation therefore performed. About 6 ozs of fluid injected into bladder, catheter retained, rectum stuffed with cotton. Incisions made as usual, bladder opened and an elongated stone 2 inches long removed. Another large stone, in fact the *rectal* stone so to say, remained *encysted* in the bottom of the bladder. It was most difficult to dislodge it, scoop and forceps and fingers failed in several attempts to get hold of it. It was at last hooked from the pubic aspect and dislodged by scoop, and then extracted by large lithotomy forceps. It was rounded, with one tapering end rising from it. This end lay in the urethra under the pubis. It is 2½ inches long, circumference in both diameters 5 inches.

Lastly median operation was performed through perenium and rubber tube introduced and retained in bladder for the sake of drainage. Next, 4 catgut sutures were applied to bladder wall, the abdominal muscles and skin brought together by silk sutures. Iodoform dressing and bandage applied. Weight of both stones 19 drms (1140 grains).

23rd. Temperature 98°6, pulse 120. Urine passes through tube freely. No tympanitis at all, no fever, slept well the whole night. Feels much thirst.

24th. Urine through perineal wound. Pain in operated part. No abdominal tenderness. No vomiting. Bowels moved since yesterday. Temperature 99·2°.

Evening temperature 100°, pulse 116.

25th. Temperature 98·6°, pulse 92. Bowels moved twice yesterday. He passes urine through the tube. Evening temperature 100·2°.

26th. Urine through tube, a few drops of pus have appeared in the pubic wound. Bowels not moved. Temperature 99°.

Evening temperature 99·2°.

27th. Tube from the pubic wound removed, urine passes through perineal tube. Bowels moved once, but not freely. Doing well. Temperature 98·2°.

29th. Dressings changed yesterday. There was some amount of purulent discharge followed by watery discharge of urine for the first time. Bowels are regular.

1st May.—Dressing changed. Small quantity of urine passed through pubic wound, and the rest through perineal wound. Perineal tube removed.

9th May.—Urine from both places, and occasionally a few drops through urethra.

25th. All urine passed through urethra. Discharged well.

Case XIV.—Mulji Keshav, H Male, aged 40 years, Potter, of Porebandar District, suffered from stone symptoms for 7 years.

Urine :—Contains a small quantity of albumen and pus.

6th May 1892.—Suprapubic lithotomy. Chloroform administered. Morphia injected under skin. Lithotrite No. 12 introduced, stone 1½ inch in diameter, extremely hard. Lithotrite did not crush it by ordinary force. The screw was turned by mechanical aid, but it unscrewed itself. On withdrawal the male blade was found bent up, the diameter at the end being ⅝ inch, it lacerated the urethea on withdrawal. Stone being large suprapubic operation was performed. Bladder opened and was found with almost its entire cavity filled up by stone, which was large, hard and marble-like in appearance. Length 4½ inches, breadth 3 inches, circumference 9 inches, and weighs 4030 grains. While withdrawing stone, loops of intestines protruded from abdomen, they were returned. Walls of bladder stitched all round to the abdominal parietes by catgut ligatures, and then the parietes brought together by silk sutures. Iodoform dressing, oakum and bandage applied.

Median operation then performed and a tube retained in bladder for the drainage of urine through perineum. Small drainage tube retained at the lower part of abdominal wound.

7th. Urine through perineal tube. No discharge of blood. Is conscious. Slight fever, temperature 100°, pulse 108. Pain in the pubic region.

8th. Urine passes through perineal tube and sometimes a few drops through pubic wound. Abdomen is somewhat tympanitic. Temperature 100·4, pulse 112. Dryness of mouth, tongue slightly furred. Bowels not moved since operation.

Evening temperature 103·4, pulse 124, weak.

9th. Temperature 102·4. Bowels not moved yet. Urine passed through both tubes. Pulse 116, weak.

11 A.M.—The patient is unconscious, pulse weak, hardly countable ; respiration shallow, body getting cold, is in a dying condition. Died at 12 noon.

Remarks.—A few years back there was a reaction in England in favour of the suprapubic operation, but the ebullition appears to have subsided, and the high operation has again become an exceptional resort in stone operations.

If the operation was frequently resorted to, that is, in all cases that came to a surgeon's hand, then the rate of success could show a greater percentage than what the records under report indicate. Even then it cannot stand a favourable comparison with lateral operations, as was alleged in the late mania for it in England. Almost all great surgeons have laid it down as a rule, to resort to suprapubic operation in cases of very large stones, calculi measuring upwards of 1½ inch in diameter, which cannot be safely removed by perineal opening. Under the circumstances, patients having large stones are greatly worn out, mostly unfavourable subjects for operation, the bladder diseased and most probably the kidneys involved. The abdominal wound is made large enough to give exit to the large calculus. The flow of urine is against natural gravity as it has to run over the pubis and the urine is likely to bathe a large surface inside the pelvis.

The wound runs a prolonged and tedious course in healing as in cases No. 8,9,13. There is great risk of wounding the peritoneum as in cases No. 7,12,14, wherein intestinal coils actually presented in the opening. In short, the drawbacks to the success of high operations are many, and it has therefore received its due, the last place in vesical stone operations.

Formerly actions and reactions took place in favour of or against one or the other of the three operations then in vogue, for the cure of stone in bladder, *vis.*, lithotrity, lateral lithotomy, and suprapubic operation. But almost at all times the abdominal operation has deservedly stood last. The recent operation of litholapaxy has revolutionized the surgery pertaining to urinary calculi. Not only the suprapubic, the median and lithotrity, but the lateral operation which has occupied the front rank for ages, has fallen in the back ground. The lead is now taken, as the safest operation for the majority of stone cases, by Bigelow's operation. The only drawback to a more general adoption of litholapaxy is the costliness of the instruments which a surgeon has to provide himself with.

Prior to the period of litholapaxy, the suprapubic operation was a blessing, and was the best operation for one class of patients *vis.*, females, in whom the removal of stone either by dilatation or division of the urethra, was followed in the majority of instances by incurable incontinence of urine, which rendered the existence of the patient miserable.

The method adpoted in the performance of the operation may be briefly recapitulated as follows :—

1. Injection of warm water or boracic lotion into bladder.
2. Distension of rectum either by wet cotton or sponge, in order to render the bladder prominent in the hypogastrium.
3. Incision of skin from pubis upward to the required extent, division of muscles and exposure of bladder.
4. Passing catgut ligatures through the wall of bladder so that it may not be missed on its collapse by the escape of fluid.
5. Incision of bladder by knife guided by the point of catheter inside the vesical cavity.
6. Removal of stone by forceps.
7. Application of sutures.
8. Provision for drainage of urine.
9. Dressings and bandage.

The last three points require comment, the others are all noticed fully in the description of the cases.

In the majority of cases no sutures were applied to the bladder. The muscular walls were brought together by catgut, and the skin either by silver, wire, or silk thread. In a few cases the bladder wound was stitched by a few points of suture. More or less difficulty is experienced in applying these sutures deep in the pelvis to the collapsed walls of bladder. They cannot be applied with the same precision and coaptation as in interrupted sutures to a superficial skin wound.

In most of the cases a drainage tube was inserted into the bladder just above the pubis and retained in *situ* by being tied to one of the catgut sutures. The urine either flowed on one side into the bed or direct into a urinal.

In the last two cases, besides this tube special provision was made for getting rid of the urine. The bladder was opened from the perineum by median operation, and the urine allowed to gravitate through perineum. The abdominal wound then healed up readily. It was dressed with Iodoform lint and a broad hip bandage, which was changed when soaked with urine.

Among 14 cases there were 10 adult males and 4 children. One death resulted from accidental poisoning by morphia, the other 5 from peritonitis which is the scourge of the operation, 8 patients recovered. All the children recovered. Three deaths were due to large size of the stones and consequent wound of peritoneum. In 4 cases litholapaxy was attempted, and the operation was performed because the urethra was too narrow for the lithotrites at hand, or the stone was too large, hard or troublesome for litholapaxy. In case No. 8, litholapaxy was attempted twice and on the third occasion high operation was performed. In the same case the intestine was observed in the wound, and yet recovery took place.

THE CHEMICAL ANALYSER'S REPORT.

The Annual Report of Surgeon-Major G. S. A. Ranking, Officiating Chemical Analayser to Government, for the year 1892, shows that the total number of analyses performed during the year was 3,405 against 3,063 in 1891 and 2,746 in 1890, showing large and continuous increase in the work of his department. The medico-legal examinations alone account for 331 analyses, the figures being 1,745 against 1,414 in the previous year. The number of human viscera examined shows an increase of 48 in 1892, and also that poison was detected in 45·95 per cent of the total number of cases sent up, against 42·43 in 1891. As usual, opium, and arsenic head the list of poisons found, the former having been detected in 26·09 per cent of the cases examined, and the latter in 11·23 per cent. Other poisons were traced in a comparatively smaller percentage of cases, the figures being 8·33 against 11·62 in 1891. By far the largest number of references was from Calcutta, which sent in 62 against 18 in 1891, poison being detected in 75·58 and 66·66 per cent respectively. The district of the 24 Pergunnahs also furnished a large proportion *vis.*, 30, against 28 in 1891, and the percentage of cases in which poison was found was as high as 66·66 against 42·85 in the previous year. Arranging the results of the examinations of viscera, according to the divisions of the Province from which cases were sent up the Presidency Division shows in 1892, the largest percentage of cases in which poison was detected, but this was partly to be expected from the total number sent, *vis.*, 104, against 67 in 1891. The following figures indicate the percentage of cases in which poison was detected in the cases submitted from the Presidency Division :—1888—57·74 ; 1889—58·73 ; 1890—50·81 ; 1891—47·76 ; 1892—64·42.

The total number of suspected substances sent in for analysis shows an increase of 255 in 1892, the figures being 1,000 against 745 in 1891. Arsenic was detected in 31·84 per cent against 24·02 in the previous year. The total number of articles tested for purity and quality was 1,658 against 1,649 in 1891, showing an increase of 9. It is noticeable that, in the year under report, the number of samples of potable water sent for analysis increased by 49, the figures being 149 against 100 in 1891 ; of the 149 samples, 13 are designated as municipal waters.

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The Medical Reporter.

CALCUTTA: APRIL 1st, 1893.

THE Committee which was appointed by Government in a Resolution dated the 16th September 1890, to prepare a scheme for the establishment of a new, enlarged, and improved Leper Asylum for Calcutta, have completed their Report; but before we deal with the recommendations of the Committee, it is necessary that we explain why so much delay occurred in the preparation of the same.

Almost immediately after being appointed, the Committee felt a difficulty in dealing with the points indicated in the Resolution, and a reference was made to Government, and in reply they were asked to carry on their deliberations on the assumption that the law would remain as it was. Another meeting was held and they were still of opinion that, without the receipt and perusal of the Report of the Leprosy Commission, they were unable to proceed. They applied for the same in July last, and were informed that it had not been received, and as it was quite uncertain when the Leper Commission would submit their Report, the Committee decided to continue their sittings on the basis that the present "voluntary system" was to continue.

The points suggested for consideration by the Government were :—

(1) Locality of the new Asylum.

(2) The number of inmates for whom accommodation should be provided.

(3) The provision of funds for the maintenance of the Institution and for its supervision.

(4) The constitution of the governing body.

(5) The rules of admission and discharge.

It was also suggested that the Committee should make their recommendations incidentally, which might be useful if legislation is hereafter introduced.

Regarding the locality of the new Asylum, the recommendations deal with the following points. The Government Resolution of the 29th July 1890, instructed the Committee that the proposed Asylum should be on a site "at some distance from a dense population, which shall be wholesome and convenient for the unfortunate sufferers, and at the same time shall not be sufficiently easy of access to tempt them to leave it readily."—As the home is to be worked on the "voluntary system," and if it is to be the home of destitute lepers, the site should not be far from the city or from the site where these afflicted persons mostly congregate, and for this reason a census was taken, and enquiries were made, after which the site proposed was at Kanchargatcha, in the jurisdiction of the Manicktolla Municipality. This site was inspected by the sub-committee appointed, who unanimously recommended it, and the Committee concurred in the recommendation. The land referred to is situated on the south of the Manicktollah Road, is well raised, and conveniently situated. At this stage, Dr. Gregg, the Sanitary Commissioner, took exception to the location of the new Asylum, and *very rightly* recorded a protest which was considerd at a special meeting by the Committee with the result that, they saw no special reason to alter their recommendation, and on various grounds, they could not agree with Dr. Ggegg in placing a Leper Asylum in the same class of nuisances as trenching grounds and cholera hospitals.

With reference to the number of patients for whom accommodation should be provided, very great difficulty was experienced, as the Committee had very little data to go upon. Compulsory residence, destitution, and the results of the census return had to be taken into consideration, and after carefully considering the question they submit that accommodation for 200 Hindoo and Mahomedan lepers (150 men and 50 women), will be sufficient for present requirements; but as a scheme of compulsory segregation is not before the Committee, we consider it unwise waste of present resources to provide accommodation so much in excess of normal needs. Accommodation for a smaller number would amply suffice for present requirements; but, taking into consideration that the Committee mean to include European and Eurasian lepers in the new Asylum, the number suggested by them perhaps is not too large, and may be taken as a maximum.

The sexes are to be rigorously segregated, and separate accommodation provided for Hindoo, Mahomedan and other classes, the more healthy cases being kept apart from those in an advanced stage of disease. The clothing of the inmates will be washed on the premises, and the servants will reside in quarters provided for them in the institution.

The next item is the provision of funds. By disposing of the land at present used in Amherst Street, a large amount of money (one lakh of rupees) will be collected, and the materials from the building there could be utilised for the new Asylum. In addition to this money made available by the above method, the Committee expect to receive about Rs. 30,000, from Government, the sum subscribed to commemorate in a permanent way the visit to Calcutta, of His Royal Highness the late Prince Albert Victor, and the aggregate 1,30,000, will be sufficient to provide for the purchase of land and erection of the new building.

From the accounts of the District Charitable Society, the Committee think that Rs. 120, per annum, is sufficient for the

maintenance, clothing, medicines, *etc.*, for each leper, and the cost of the maintenance of the new Asylum will, if 200 patients are admitted, amount to about Rs. 24,000 per annum. The District Charitable Society have expressed their inability to bear the strain of supporting the present Asylum any longer, and have addressed an urgent appeal to Government to be released of the responsibility. As the grounds of the appeal are not before us, we are not in a position to judge how far the District Charitable Society are justified in objecting to the charge hitherto borne by them. Regarding contributions, they are rightly so, not to be compulsory.

There is one source of income which the Committee draw attention to, and that is the charity of Prince Golam Mohamed, which amounts to Rs. 11,680 annually, and if arrangements could be made to discontinue it in its present method of distribution, the amount being handed over to the Asylum for the support of the inmates, a certain appreciable supply could thus be obtained.

The Asylum is to be an official institution, managed by a Committee appointed by Government. A Resident Superintendent will be necessary, and the services of a medical officer will thus be utilised, possibly Government would lend the services of an Assistant-Surgeon, who would be provided with excellent quarters.

In dealing with the question of rules and regulations, the Committee feel a difficulty in proposing a practical scheme, and so long as the voluntary system exists, the rules will not work satisfactorily, but it is to be understood that, any one found begging, affected with leprous sores, or in a condition of destitution, should be removed to the Asylum until he is reported cured, or till some suitable person comes forward to take care of him. In the case of vagrants, the Committee think that they might be able to avail themselves of the aid of the police, who instead of sending them to jail might transfer them to the Asylum.

The new Asylum is to be named, the "Prince Albert Victor Leper Asylum," in consideration of the contribution which will be made towards the foundation of the new institution by the permanent memorial fund, and in concluding their Report the Committee make a few general remarks. They consider that an Asylum of this nature has a double purpose to fulfill; one, the removal of a nuisance from the streets and public buildings, and the other, the relief of the sufferer. From a public point of view the Committee think the first of these two objects is the more important, and can never be met by a voluntary Leper Asylum, however well equipped or comfortable. The large majority of lepers they say are vagrants, and in almost all communities in this country, a leper when the disease has developed itself, is expelled from his home—often from his village—in a word he becomes and must become a beggar, and as large cities present the best field for mendicancy, vagrant lepers necessarily gravitate to them. They acquire in a very short time habits of vagrancy, and except when the sense of misery is sharp, they prefer to wander about the streets and beg rather than live a regular life, with food and treatment in an asylum. At times begging is not remunerative, and if the weather is bad the disease becomes intolerable; they then seek refuge in an asylum; but a short stay there, with regular diet and medical attendance works such an improvement, that they forget their past sufferings and seek the streets again. The question the Committee think appears to them more an administrative than a medical one, and until some Statutory power exists to restrain vagrant lepers, the working of a leper asylum cannot be expected to be satisfactory.

We think however from a public point of view that the latter of the twofold purpose which an asylum of this kind is expected to serve is equally if not more important—to get rid of the disease and cut it short, thus relieving the sufferer. From an administrative point of view, until compulsory segregation of lepers is made the law of the land, it seems to us, so unwise and undesirable to enforce that condition by straining the existing law of native vagrancy, a statute which is repugnant to Indian feeling, and so is reduced to a dead letter in practice. This control in the hands of the Native police, if backed by the Magistracy, would import a fresh terror into the streets and invoive the blackmailing and illtreatment of such non-lepers, who may be suffering from other cutaneous diseases.

How busy and energetic are our Municipal Commissioners and the Municipal Executive, and they have done good work. We cannot help noticing the vast improvement in sanitation that has been effected in the past decade or two. A splendid well arranged and well controlled market is a prominent sanitary work; then we have an almost perfect system of water supply, and a not less necessary drainage system. To the Municipal Authorities is the credit due for the widening of roads and streets, and the making of new thoroughfares especially through crowded *bustees*, and also for the general sanitary improvement of these *bustees*, and they by these means have brought about so great an improvement as regards the healthiness of the city, as to make the percentage of deaths almost as low as that of other great cities of the world, better located and who have earlier begun sanitary work; and this good result has been attained, notwithstanding the hindrance to healthfulness, presented by the fact that Calcutta is built on a low and reclaimed marshy site, on spongy soil.

In looking after the healthfulness of the city, the sanitary authorities and the citizens have followed the teaching of experts, professors of sanitation, and sentiment has been excluded, for sentiment under the plea of religion would still crowd the Hooghly, with dead, and would foul tanks and other reservoirs of potable water. The value of life and the preciousness of health for the living has been clearly recognised, and this is as it should be, for free trading in disease cannot be permitted wherever the rules of sanitation are accepted.

We wish that the principles of sanitation, which truly means prevention of disease, were completely applied, and no free trade in disease permitted, as is the case in respect of the

Social Evil, therefore, we return to this subject again, our object being to call the attention of our sanitary authorities and our fellow citizens, who should all be interested in the matter to a field of labor, where so little has been been done and so much remains to be done, and which is important because, the menace to the health of the inhabitants is so real, therefore, it is necessary that prompt and energetic measures be adopted. Sentiment which has hitherto governed all action in this matter and has been allowed far too free a hand, has but developed and spread the evil, and having so egregiously failed, should be put aside without hesitation, common sense should be heard and its dictum accepted, and common sense would point to a scientific treatment of the matter. What science teaches are always lessons learnt of experience conjoined with reason, and what scientists recommend would, if adopted in respect of ruling and restraining the effects of the Social Evil be of very great value indeed, to the whole community; for science alone discloses the gravity of the danger; it tells us that the Social Evil, as it is, is a terrible menace to our community and actually results in untold misery, reaching unto future generations, as it produces syphilis, scrofula, phthisis—the most virulent afflictions known to mankind.

The existence of the Social Evil is one of the most serious questions of the day, and as its removal is not possible, the production of a simple workable plan to control and minimise the evil consequences proceeding from indiscriminate sexual intercourse, should be interesting alike to the public and the medical profession. The point is how can the Social Evil be regulated? Every one, who thinks on the subject will admit that it cannot be eradicated, it is an indisputable fact that it has existed from the very beginning of social life.

What efforts have been made to check this evil by those who oppose any plan to control it? methods most inadequate to grapple with so great an evil and entirely ineffectual to master it, so weak are these efforts as really to be no efforts at all. The evil is so great and so full of vitality that it has been called a hydra-headed monster, and we do not think the simile at all far fetched. We would refer to the recent raids by the police and prosecutions of proprietors of houses let to prostitutes, as an ineffectual and weak effort, tho' the plan we admit has resulted in the removal of the unfortunate's who follow the calling of prostitution from one street, yet the doing so shows the absolute want of system in such mode of procedure; it hasn't the slightest effect on the Social Evil. To attempt to lessen the Evil by such a method is a grand mistake, for it is but one of the many ways of transplanting it into localities hitherto free from vice of this kind, and we have instances in Calcutta to verify this statement, for in every case when there has been coercion of this order, it has led to other streets being peopled by this class of women, and by and bye, the streets from which they have been ousted are again filled with them. This has been going on so persistently that gradually the most respectable streets are being invaded by pioneers from the great army of prostitutes, and if this method of procedure continues to be adopted, it is not hazardous to prophecy that, in time, and a not very distant period either, the most select streets of the South, or "West End" of Calcutta, will be occupied by members of the *demi monde*.

We have before emphatically repudiated the assertion that, the sentimental or goody treatment of the Evil is the correct method, and we have advocated as earnestly that a scientific, common sense and humanitarian method be adopted; we maintain that the sentimental treatment is *not a humane method*; it is apart from the welfare of humanity, it advocates false assumptions based on wrong principles when it requires a protection of mock-modesty; a woman who, from whatever motive, practices prostitution has slain the sentiment of modesty within her; we assert that most prostitutes would feel no shame in public nudity, and if the law permitted they would display themselves in this way. To pose as protectors of the modesty of prostitutes is really ridiculous! Yet, the people who advocate free trade in disease do pose chiefly as such protectors. The attitude of these partisans is that of protecting the modesty of these unfortunate women regardless of consequences to the rest of the community, by the spread of the contagion of one of the most terrible of infectious diseases. We think the time is ripe when this method should be discarded.

Let teachers of morality join hands with physicians and sanitarians, and let them then use the vast influence which they would obtain, and which would be characteristic of this union, towards the enactment and enforcement of a law, regulating the practice of prostitution in such a manner, as to minimise the evil resulting therefrom. It is a blot on any administration, municipal or otherwise, to permit such free trade in disease, and while it is permitted frustrates in a forcible way other sanitary efforts and sanitary care for improving the health of the city.

If there were cogent reasons for permitting the unchecked spread of syphilis and other loathsome and destructive genital diseases, we could understand the carelessness assumed in this matter, still it would be incumbent for us to advocate the adoption of preventive measures. Only inevitable reasons for permitting such free trade in disease would cause us to be silent, but no such reasons exist. How can we be silent when we know of the awful prevalence of disease arising from prostitution, when we know of many a promising young life filled with suffering, and many more whose lives are blasted, perhaps by a single deviation from the path of continence. 'Serve them right' many people say, for they but reap as they sow, and the wages of sin are bitter, but is this a humanitarian view of the matter? and it is only from this point that medical men are interested in the question, to judge harshly, to cast stones, certainly displays extreme self-righteousness; it means that such people believe that they are not of like flesh and blood as their fellow men, that they are not peccable. 'Know thyself' is a wise precept, and they who learn it even partially learn humility, and this is the beginning of true knowledge.

The awful prevalence of diseases resulting from prostitution should encourage all those intersted in this important subject, and they are, or should be, to the whole of the citizens, to endeavour to prevent as far as preventible, and that to a great extent, the spread of these diseases with their terrible consequences. Can sentimentalists or purists eradicate such diseases? Surely not! They have had a fair field and ample time to develop their methods, if they ever had any: it seems their only way of dealing with the evil is to leave it severely alone, but this plan as has been proved only causes it to grow and spread, and if it were continued, it would be no exaggeration to expect in time to find prostitution shouldering respectability out of the way in every street and lane of this city. Lucknow, Delhi, Murshidabad and other Mahomedan cities, under Mahomedan rule, were crowded with prostitutes, because the evil was let alone, it was no man's business to think about the matter, or of the contagion spread so widely by it.

Can the rich man or the philosopher eradicate the evil with their money-power or their many theories? Surely not! They have each formulated their theories, and have achieved nothing, they have not succeeded in ameliorating even this curse of social life, then why permit the sentimentalist, the purist, the rich man, or the philosopher to have so free a hand any longer; delays are proverbially dangerous, even when applied to the ordinary engagements of every day life, and the evil consequences of dilatoriness are enhanced when delay means serious results to health and life.

As we have stated, Calcutta is fast following in the footsteps of advanced Europe in matters sanitary and municipal, then why should she be so far behind Europe in a vital social sanitary matter? It is time that our community should arouse itself and adopt active remedial measures, on the prevention being better than cure principle. If laymen could only see, as medical men see, the evils of prostitution, and know, as medical men know, of the virulence of the contagion it engenders, they would throw off their lethargy and indifference, and be active in voting for the adoption of stringent preventive and restrictive measures. It is not a savoury subject and we would fain avoid it if duty did not make it imperative for us to try and awaken a just and true interest in the matter, and therefore, we have tried to put the effects wrought by the evil in every possible light, and to make it apparent, so clear as to be beyond the range of cavil, that since we cannot eradicate the evil, our only course is to restrict it to the narrowest bounds and to prevent as much as possible, its evil effects.

Is it not true that most people who oppose restriction and prevention, who will not hear of laws being made for the controlling of prostitution, are as ignorant as babes of the nature and virulence of the terrible maladies springing from this vice, but how to enlighten such people is the problem. How shall we educate people who repudiate what their eyes see? How shall we instruct people who have only one set of opinions, who only look upon one side of the shield in any question? Let the evidence offered be ever so reasonable, ever so conclusive, such people are unaffected, their own opinions are still uppermost, and so we find *ad nauseum*, the phrases, "license shame," "encourage crime," though it has over and over again been pointed out that to license shame and encourge crime is not the object of a law for regulating the Social Evil, it is not the objective in the minds of legislators when they take the subject up, but legislators approach the subject from the point of view of the greatest good to the many, which is the principle basing all enactments for civilized social life, and the object of restrictive and preventive laws are the same—the greatest good to the many.

But to keep to our present slipshod way, for we have no plan or system, is to work not on the opposite principle, for that would mean the greatest good to the few, but on a novel principle of procedure for civilized communities, for it is that of no good to any—if this method was adopted in all social matters, civilized communities would soon be in the same position as that in which the famed Kilkenny cats found themselves—we would lead Ishmaelitic lives, our hands against all men and every man's hand against us, Such is really the position of opponents who stand against the adoption in social life, of the correct principle of the greatest good to the many. Besides to keep to our present position regarding the Social Evil is to license syphilis, scrofula, phthisis and cognate maladies. Which is better for a community, just and reasonable restrictive laws, or that syphilis, scrofula and phthisis should be allowed a free course? The answer is plain and unmistakable.

Moral teaching is made much of by opponents of restriction. It is right to exalt morality and to receive with humility its lessons, but it is out of court here however much we may desire its evidence, for moral teaching will not prevent the spreading of contagious venereal affections, but a suitable law will do so effectually. It is certainly not honorable to our city and to India, that better regulations have not been enforced and re-enforced. It is not adopting better regulations to harry an infinitesmal minority, a few unfortunate women (as the police sometimes do and not very long ago), for plying their trade, for so they consider it. Such a mode of procedure is not just and it is far away from affecting beneficially the plague resulting from the distribution of venereal poison. As we have pointed out in former articles the problem of the Social Evil should be considered from many points of view, and if we do so, we shall not in selfish fear forget those who are classed as unfortunates and are often truly so, many of them being pitiable creatures, driven to their manner of life or inveigled into it. When we investigate we find in many cases that the predisposing causes to the adoption of such a course of life are very sad; young girls and young women are neglected or forsaken by their parents or are cruelly treated by them, and are thus spurred to embrace a life of shame; the seducer with his wiles and his dastardly withdrawal from his helpless victims, is a potent factor in recruiting the ranks

of prostitutes. Poverty, cruel crushing proverty, with its slow sapping demoralization coupled with the impossibility of many young women making an honest living, are also important factors in placing many in such a sad predicament. On the other hand many women follow prostitution owing to natural depravity, uncontrollable sexual passion, fondness for evil society, and fondness for dress.

It is important to remember while investigating the matter that prostitutes are recruited largely from the poor and therefore are presumably, and often actually friendless, and thus having once fallen, they have no one willing to extend a helping hand to them to pick them up and restore them to positions where they may walk in the paths of virtue; when they have no one who for friendship's sake would do this for them, it is not difficult to believe that, to them, the world appears cold and selfish, composed of units with only personal interests; and thus viewing the fortunate and virtuous, their hearts harden in defiance and they become difficult subjects for the philanthropist to deal with. Is it not true that the world is cold and selfish! Is it not true that the respectable Levite and the still more respectable and self centred Pharisee, pass by with looks of cold scorn, gathering up their garments as they pass, to be out of reach of contamination! Our so called reformers have done nothing, we reiterate, for these helpless beings, though by developing intrusive fads they have succeeded in persecuting these much to be pitied girls and young women. Of course all our remarks are only applicable to European women and the descendants of Europeans.

Thoughtful people who desire the welfare of their kind, see that something in the way of reform must be done for these women, something practical; if the system adopted by Magdalen Homes and Houses of Refuge can do it, by all means let such institutions have public support, for lukewarmness and the adoption of half measures, in any cause, go farther than ineffectuality, they generally are productive of harm. We are doubtful of the system adopted in our Magdalen Homes and Houses of Refuge being able to do the work as it should be done, but our opinion is convertible on good evidence. Side by side with efforts at reformation of the women we strongly advocate restrictive and preventive measures, for it is of great importance, nay an absolute necessity, that this vice should be controlled, as it is in our midst as a pestilence, spreading disease in all directions. We are indefatigable as a community in guarding ourselves against typhoid fever, cholera, small-pox and so on, and this is reasonable, yet diseases which are sapping the very vitals of our existence are overlooked or unheeded; is this reasonable? Let us then awaken to the actuality and greatness of the danger! Let us unfold our arms and get to work.

We see clearly that prostitution cannot be eradicated, but it can with its evil results be minimised, there are some people who think that it could be abolished by law. Could this be so? As we have stated in a former paper that if prostitution was legally abolished, the evil which is now public would then be secret, invading the purity of our homes, for it is clear to us that if prostitution was abolished, crimes the most heinous, the most revolting, would be of common occurrence, and no virtuous woman would be safe from the assaults of the licentious—this is certain. Thus it is evident that we may call it a necessary evil and not be far wrong, therefore the one chief object of all communities should be to pass a law restricting its practice and preventing it from being a hot-bed of disease. This is the only reasonable course open and it would be of immense benefit to follow it. To do this it is essential that medical men be appointed as inspectors, and compulsory inspections twice a week among prostitutes be fixed by law—the poison of venereal desease spreads so rapidly that unless such a short period between inspections was fixed, much of the benefit sought by such a legal enactment would be lost. Houses of ill fame should be permitted only in certain parts of the city. If all this was done we should in a very short time begin to see the effects and appreciate the working of such a law.

We are not advocating anything novel, for in Europe similar laws, and a like system of procedure have done an immense amount of good. In Berlin, Brussels, Paris and Vienna, where such laws are in force, there has been a remarkable diminution of venereal disease, and we find that in the Ionian Islands, at Malta, in the Islands of Zante, Corfu, and Cephalonia, syphilis and other venereal affections have almost been stamped out. In Mexico and South America similar laws are in force and with like effect. With this information before us our advocacy of similar efforts being made here cannot but be firm and energetic. It is essential in gaining this end that all right minded citizens should co-operate in securing proper legislation and prevention, for many lives and much sorrow and suffering can be saved by so doing.

We should acquire, according to Professor Virchow of Berlin, a clear idea of what precise thing in this connection, a social community needs. From a medical point of view what we want is a curtailment of that terrible disease syphilis. Professor Virchow is of opinion that the view which many people entertain, even medical men, that syphilis is as "old as the hills" is wrong, in fact, pure fancy. As a matter of fact we are told on such good authority as that of the Professor, that syphilis cannot be traced to have been existent before the voyages of Columbus, or about four hundred years ago. It is a remarkable fact that as soon as the people of Europe began to undertake long sea voyages, when the Spaniards and the Portuguese began their voyages of discovery in the South Sea and the Indian Ocean, it is then, that scientific research can trace the beginnings of this disease. Professor Virchow states that no trace of this disease can be found among the ancient Egyptians, or early savage nations; so that, it seems certain that the existence of syphilis may be said to begin from the sixteenth century. Scientific research thus teaches that humanity and syphilis were not inseparable, and it is not any thing so old as the Social Evil, and this being so, they might again be separated by preventive measures and preventive medicine.

Special Communications.

INJECTIONS AGAINST CHOLERA.

A Lecture By Professor M. Haffkine, Delivered at the Medical College, Calcutta, on the 24th March 1893.

(*Specially reported for* The MEDICAL REPORTER).

At the Medical College theatre, precisely at 4 o'clock, a very large number of medical gentlemen and students assembled to hear Professor M. Haffkine's lecture, and witness his demonstration of the method of inoculating a modified cholera virus as a protection against Asiatic Cholera. [We take this opportunity of expressing our sense of deep gratitude to him for his kindness in giving this lecture, and we earnestly trust that his hopes will be realised in this country.]

Dr. Bomford, Officiating Principal of the Calcutta Medical College, introduced in a few words the Professor to the audience, and said that he had no doubt that those present were familiar with the name of Pofessor Haffkine, from what they had read of him in the medical journals. He (the Professor) had come from the famous Pasteur Institute of Paris, and offers to us a protective remedy for Cholera, based on scientific principles. He has made extensive experiments on animals and has discovered a virus which would not only produce Cholera, but which when passed through certain processes and modified, gave protection against infection from this disease. He has come to India to complete his experiments, this country being considered the home of Cholera. Let us then on behalf of the medical profession of Calcutta, offer him a hearty welcome, which we hope will be accepted by him as a mark of our gratitude, and that his discovery and further reasearches will be fruitful to us and to science in general (applause).

Professor M. Haffkine then made a few remarks in French, after which Dr. Bomford on his behalf read his (M. Haffkine's) paper on the subject, from which we have made the following summary :—

After a few preliminary remarks, Dr. Bomford said—Formerly our conclusions in the treatment of disease were based purely on theoretical grounds, most of the methods in Medicine were discovered accidentally, but the discovery of the infection-agents had changed the speculative practice of medicine. The time had arrived when we could convey disease to animals in the laboratory, Cholera could now be communicated thus by inoculation, and by a modified process prophylaxis could be insured to them at any moment ; this of course was interesting to the practical physician. Dr. Bomford said, he could not enter into the whole history of the process as was made lately in a communication in the Examination Hall, in London ; he would only deal with the experiments and facts which formed the grounds for the practical working out of the process.

For clearness sake, and in order that it might be understood we present the following facts in connection with the subject of microbial infective processes. They are of two kinds—"septicæmias" and "intoxications"—in the former the bacteria freely multiply in the blood and form their poisons there, but in the latter they do not proliferate in the blood, but the poison is absorbed into the system from some point at which the bacteria may have lodged. Asiatic Cholera belongs to the class of "intoxications," as in this class of infective diseases the specific organisms are confined to the alimentary canal, they are never found in the tissues, and are rapidly killed when introduced artificially into the circulatory fluid or under the skin. For this reason therefore, the human system may be said to be wholly "cholera proof", but on the other hand, by clinical observation and experiment it has been established that the system is acutely susceptible to the poisons which are generated by the comma bacilli in the intestinal canal. In connection with these facts it is easy to understand that immunity from Cholera can only be brought about by rendering the system "proof" against the poison of the cholera bacillus, and M. Haffkine's method of anti-choleraic vaccination consists in such a process of anti-toxical vaccination.

The specific virus of Cholera is connected with the comma bacillus of Koch. M. Pasteur of Paris, in his experiments with reference to anthrax and hydrophobia, discovered a way of intensifying virus up to a fixed strength, which is the ultimate aim in the research for a vaccine lymph. It is now known that this may be done by the transference of infective organisms through a series of animals till a virus is obtained which is many times stronger than the ordinary virus of the disease, and kills in a very short time. To obtain this virus of Cholera, cholera virus is injected into the peritoneal cavity of an animal, the resulting effusion being transferred to a second animal, and so on to a series of twenty or thirty, the virus after each transfer becomes more poisonous, until it attains a fixed degree of virulence, much above the strength of the ordinary virus, and from this the first (the feeble vaccine), the strong vaccine is obtained by artificial cultivations in a high temperature and an atmosphere constantly renewed—this virus being the strong or definitive vaccine.

The protection against Asiatic Cholera is brought about by acclimatising the system to the first vaccine, and afterwards to the second vaccine, the strong cholera poison, and for sufficient protection it is very necessary that this last or second vaccine should consist of the strongest obtainable cholera poison. The object of M. Haffkine's cholera vaccination is to enable the system to tolerate such quantities of cholera poisons as might be expected to be absorbed by the intestine during the time which elapses between the invasion of the alimentary canal by the comma bacillus and the elimination of these microbes, which invariably follows when the convalescing begins after an attack of Cholera. It is not to be understood however, that M. Haffkine's inoculation establishes a resistance on an indefinite quantity of cholera poison, for it is evident if no reaction took place on the part of the system, the cholera bacilli would not be thrown out from the intestinal canal, and by multiplying there would naturally give rise to an indefinite amount of cholera poison, but as the system possesses

this reaction-power to the invasion of the cholera bacillus, it would be sufficient for all practical purposes if a sufficient tolerance of the cholera poison could be induced to enable the system to put forward the whole reactive power. Whether the tolerance of Cholera which can be induced by M. Haffkine's method is sufficient to tide over the critical hours of an attack of Cholera, can only be proved by clinical experience, but in the meantime, it is quite evident that, a trial should be made if the following propositions can be established—that the principles of the vaccination is sound in theory—that a high degree of tolerance is conferred on animals, and lastly—that the vaccinations upon man are inocuous.

The process of vaccination has however been tried on over fifty people of both sexes, and in every case was harmless to health. The only ill effects of the inoculation noticed were that, after the injection there was a slight rise of temperature, and general symptoms of a slight cold in the head. [Professor Haffkine was the first to undergo inoculation, and he has repeated the process three times on himself.]

Any medical man with a slight knowledge of bacteriology is able to raise the cholera protective virus, and the method of inoculation is very simple. The living virus, when prepared, is capable of being kept for some time, and could from a central laboratory be sent a journey of two or three days by rail, and would still maintain its original qualities.

The case from which the cultures used in the above experiments had been obtained, was from a cholera patient in Cochin China, from where it was sent to Professor Haffkine. From experiments which had been made on animals and human beings, it was considered that six days after an inoculation the system is able to resist infection from Cholera. As a practical demonstration of these experiments Professor Haffkine had, last night at Dr. Simpson's laboratory in this city, inoculated two protected guinea pigs and two unprotected ones, and a rabbit also which was unprotected. Both the protected guinea pigs are here now alive and well; but the results of the inoculation on the unprotected animals are different. A short time after the inoculation they became unwell, the temperature fell, the abdomen became tense and they were in great agony, slight pressure over the abdomen causing them to cry out, the muscular functions were abolished, they lay on their sides making clonic movements, and the lips were moist. The rabbit died last night a few hours after the inoculation, one guinea pig is also dead, the other is very ill and will probably die to-night.

This brought the lecture to a close, and Dr. Bomford said that Professor Haffkine would now open the abdomen of the dead rabbit, which would give those present an opportunity of seeing the condition of the viscera, and the injected state of the peritoneum. The abdominal muscles at the point of inoculation were œdematous, and this Professor Haffkine said, was due to a portion of the virus escaping into the muscular tissue, a result which followed its introduction into this tissue. On opening the cavity of the peritoneun into which the virus had been injected, it was found to contain a large quantity of a reddish effusion which was transferred to a test tube, and shewn to those present, the small intestine was highly congested, the fluid extracted the Professor said, was the characteristic fluid exudation, and is used for transferring from one animal to another to increase its virulence, the spleen was distinctly enlarged. A portion of the fluid from the peritoneal cavity was transferred to a cover glass and prepared for a microscopical demonstration, which shewed that it contained a pure culture of the cholera bacillus, and this specimen was examined with very great interest by all present at the lecture.

Dr. McConnell, on behalf of those present, thanked Professor Haffkine for his kindness in entertaining the medical profession of Calcutta with such an interesting lecture, which was received with much applause, after which the meeting came to a close.

Transactions of Medical Societies.

THE CALCUTTA MEDICAL SOCIETY.

The second meeting for the year took place at the Medical College Hospital, on the 8th February 1893, Dr. K. C. Bose, the President in the chair. There were a large number of of medical gentlemen present.

As there were no cases announced, Dr. Caddy read his paper on—"The Radical Cure of Femoral Hernia."—He said it was owing to the extreme rarity in this country of the affection under consideration which was the cause of his reading his paper before the Society. It was more frequent among Europeans, owing to habits of living, and according to Mons. Championiere, a return after radical cure was not favoured by pregnancy. He said, it of all others incapacitated most for active life, and it was very painful. There was difficulty in fitting a truss, which very seldom cured a hernia of this description. Taking everything into consideration, he thought in a suitable subject, the operation for radical cure should be advised, and performed under strictly antiseptic precautions.

Continuing, Dr. Caddy said—The anatomical surroundings and relations of the femoral ring do not in any way aid the efforts of the surgeon, and in deciding which method is the best, the anatomical relations of the ring have to be remembered. They may be divided into four groups, and are as follows.

In the first group, are those when the ring is closed by lacing together the pubic portion of the fascia lata and Poupart's ligament, and the successful result is due to the plastic inflammation set up by the sutures around the ring. This method is very imperfect. Barker and Fitzgerald operate by this way.

In the second group, the plug is formed by transfixing the twisted neck and body of the sac above and below, the transfixing ligatures passing through Poupart's ligament and the pubic fascia, and tied tightly. Immediately behind Poupart's ligament the small empty space remaining can be filled up by

stitching tightly to Poupart's ligament and the fascia lata, which when done will obliterate the dimple.

In the third group, a flap is dissected formed of the pectineus muscle and pectineus fascia, and sutured to Poupart's ligament. It is very tedious and requires a sound knowledge of anatomy.

In the fourth and last group, the neck of the sac is ligatured uniting the skin and deep cellular tissue of the wound with thick silk sutures which is followed by very great plastic inflammation, and a dense scar tissue is formed from the crural ring to the skin surface. This is the method of Czerny, and differs somewhat from McBurney's excellent operation, which owing to being tedious is not very often practiced.

Dr. Caddy then said—The case of femoral hernia which has lately come under my notice, was that of a young European, a tea-planter, of about 27 years of age, who came to me first on the 26th July, 1892. He was ruptured in 1885, and as he could never get a good fitting truss, he was determined to have himself operated on. He was operated on, on the 2nd August, under the strictest antiseptic precautions. The method adopted was first to cut down, incise and separate the sac, ligaturing the neck as high up as possible, and a plug was formed by passing the ligatured ends through the redundant hernial sac wall and tying them tightly together, the plug was pushed up against the crural ring, and was kept there by passing the ligature ends through Poupart's ligament and the pubic fascia which filled up the empty space behind Poupart's ligament. The operation was completed by a series of sutures through the cellular tissue to set up plastic inflammation from the femoral sheath to the skin, and finally the skin was brought together by a few sutures. The patient made an uninterrupted recovery, leaving his bed on the 18th of August, with a pad and bandage. He went to Darjeeling a few days after, and whilst there with the exception of one of the deep sutures separating, he made a steady recovery and was able to perform the active duties of a tea-planter. Taking everything into consideration I believe I can say that, the operation ended in a radical cure.

Dr. Ray.—He said that this affection was very rare in India. He had had only five cases.

Dr. Chuckerbutty.—He had only seen one case in his experience. There was always difficulty he said in diagnosis, and he mentioned a case of enlarged scrotum due to a varicose condition of the saphenous vein, in which the contents rushed in with a peculiar gurgle, and was mistaken for a femoral hernia. Dr. Chuckerbutty's remarks were followed by a short discussion in which some of the members took part.

The President Dr. Bose.—He had seen only two cases and after making a few remarks, he thanked Dr. Caddy for his excellent and interesting paper.

Dr. S. P. Sarbadhikari then read his paper on—"A case of *Trephining*, for Traumatic Intracranial Suppuration" :—

Maughi Gowala, a Hindu male, aged 38 years, was admitted into the Mayo Hospital on the 25th February 1892. He stated that about an hour and a quarter previous to admission he was hit on the left side of the head with a *latti*, which rendered him unconscious for a time. The following marks of violence were noticed on him :—

I. A contused, stellate wound, on the left side of the forehead, about the parietal eminence, scalp-deep, and measuring one inch by ¼ inch at the widest part, periosteum or bone not injured.

II. A contused and lacerated wound, on the left side of the head, midway between the left parietal eminence, and the highest part of the left squamous suture measuring two inches by 1/6th inch down to the bone which was stripped of periosteum along the whole length of the wound. No fracture could be seen or felt at the floor of the wound. Patient came to hospital walking, and talked rationally. The wound was dressed with boracic dressing on admission.

Feb. 26th.—Much the same. Evening temperature 99·6°. Dressing continued.

Feb. 27th.—The wound was washed with perchloride lotion and dressed with iodoform. Morning temperature 98.8°. Evening, 103·2°.

Feb. 28th.—Pulse full and quick. Wound weak looking. Morning temperature 100·4°, evening 103·4°. Dressing continued and diaphoretic mixture given every 4 hours. The wound in the evening appeared to be sloughing, pulse now 110, full and quick. Bowels not opened. Pupils are equal and respond to light. Dressing continued. Milk and sago diet.

Feb. 29th.—Morning temperature 99·8°. Pulse moderately full and quick. Margins of wound swollen and painful. Bowels not moved. Pupils equal. Mixture and dressings continued. Evening temperature 103·6°. Pulse full, 112. Much headache. Bowels still constipated. He was ordered two cathartic pills and two doses of bromide of potassium, 20 grains each, to be given in an interval of two hours. Diet continued.

March 1st.—Morning temperature 101°. Pulse rather full and quick. Had one motion. Ordered 5 grains of quinine. Wound dressed. Evening temperature 103·4°. Pulse full, 110, regular. Much headache, had another stool. Slough separating. Diaphoretic mixture continued. Bromide draughts repeated. Ice to head.

March 2nd.—Very little change. Morning temperature 99·4°, evening 102·6°. Repeat quinine and one bromide draught. Wound dressed. Ice to head continued.

March 3rd.—Morning temperature 101·4°. Pulse moderately full, 93. Pupils equal, but sluggish. Bowels confined. Evening temperature 103·4°. Pulse 75, full, slow, regular. Sloughs have separated exposing small depressed fracture of the left parietal bone, about ½ an inch to the left of what had been the floor of the wound. There are now decided signs of effusion. Patient somewhat delirious at night. Discharge not offensive but thin and purulent. Pupils equal but sluggish. Pulse full and slow. He was not able now to make a connected statement. Bromide of potassium 15 grains with diaphoretic mixture given every 3 hours. Wound dressed. Ice to head continued. Diet as before, also a chicken ordered.

March 4th.—Morning temperature 102°. Pulse full, slow 66. Has lost voice. Right hemiplegia has developed. Pupils

equal, react slowly to light. No facial paralysis. Bowels not moved. Patient stupid and drowsy but can be made to understand with difficulty. Dressing and ice to head continued. A mixture of bromide of potaissum 15 grains, iodide of potassium 2 grains, simple syrup ½ a drachm, water one ounce, every four hours. Four doses to be given.

1 P. M.—Temperature 102·8°. Pulse 68, slow, full. Patient stupid but not quite comatose. Pupils as before. Well marked right hemiplegia with aphasia continues. Has got a cough, dry sibilant râles being audible all over both lungs.

Operation.—The patient was placed under chloroform and the wound enlarged about ¾ inch on each side. A large curved incision was made on temporal side, starting from posterior end of latter, going over parietal eminence and ending in front of that point. On stripping periosteum, there was found a depressed fracture, a little smaller than an eight-anna piece much comminuted. The broken piece was tilted on one side, the inner table holding on to the undepressed side. The comminuted area covered portions of the left supra-marginal, and angular convolutions. A circle of bone about the size of an eight-anna piece including a large portion of the original depression was then trephined out. The remaining depressed fragments and spiculæ were then lifted with an elevator. A collection of purulent lymph was now apparent between the bone and dura mater. On removing this with the finger aided by a gentle stream of tepid water from a syringe, the dura mater bulged into the wound and presented a fluctuating feel. The dura mater was then opened by a curved incision ¾ inch long, situated about ¼ inch from the trephined margin. On opening the dura mater, about 2 drs. of turbid serum escaped, having in suspension thick opaque flakes of lymph. The periosteum was then brought as accurately together as the loss caused by the original injury would permit, excepting at the lowest part of the circle which was left freely open for drainage. The skin wounds were brought together excepting a patch opposite the lowest level of the gap in the bone. Boracic dressings were then loosely applied. The operation lasted 25 minutes, and six drachms of chloroform were administered.

5-30 P. M.—Temperature 103°. Pulse 90 per minute, somewhat quicker than before, full, regular, and incompressible. Patient unconscious and refuses food, fed by œsophagus tube. Ice to head continued. No nausea present. Sub-mucous râles heard on the back of both lungs. Bromide of potassium 20 grains ordered every 4 hours. There is profuse diuresis. Pupils contracted but react to light.

10 P. M.—Patient unconscious. Temperature 103. Continue ice to head.

5th March, *7 A. M.*—Temperature 103. Pulse 122, full and regular. Patient comatose. Pupils react to light, the left very slightly larger than the right. Cough continues. Respiration 48, hurried. Bowels not open. Continue ice to head, and a mixture of bromide of potassium 15 grains, spts. ammon arom, 15 minims, simple syrup ½ drachm, water one ounce, every 3 hours. Evening temperature 105·6°. Patient died at 6-5 P.M., after being nine days in hospital.

The *post mortem* examination was held on the next day. The following are the notes :—

(1). A deep contused looking wound on the top and slightly to the left side of the head, 3 inches long, 5 inches above the left external ear. It was of several day's standing and full of weak granulations. Its direction was from behind forwards. It was down to the bones and through them, where the membranes of the brain could be felt with a probe. The edges of the wound were brought together with two catgut sutures.

(2). A deep crescentic shaped incised looking wound 2½" long to the left side of the first mentioned wound, and 4 inches above the left extenal ear. This wound was deep down to and through the bones of the skull where the membranes of the brain could be felt with a probe. This wound was of several day's standing and full of weak granulations. It was deepest about its centre. The anterior portion of the wound had united, two catgut sutures bound its edges together.

The substance of the brain was healthy. The vessels of the brain and of its membranes were congested. There was a quantity of pus extravasated on the upper surface of the middle and frontal lobes of both the hemispheres of the brain.

There was an opening in the dura mater 1½inch in diameter under the trephined portion of the skull. There was an opening 1½ inch long, and one inch broad, through the upper and anterier portion of the left parietal bone. The posterier portion of the opening had a smooth semicircular appearance as if made by a trephine. The anterior portion was also semicircular in shape, but its edges were rough as if they were the result of a fracture.

The lungs were highly congested. The liver was healthy. The other organs were healthy.

Continuing, Dr. Sarbadhikari said.—The case presents one or two points of interest to which I beg to draw attention.

(1) The pus, in this case, lay not merely under the bone and dura mater, but also under that membrane although the latter had not been injured. This necessitated the opening of the dura mater and so added to the risk of the operation.

(2) The well marked right-sided hemiplegia with aphasia, without any pressure symptoms manifested on the left half of the body, led to the belief that the case was one of purely left sided suppuration. Under this belief the operation was undertaken. It was evident that the depressed fragments of bone had not been primarily responsible for the pressure symptoms. For, if they had been the cause of these symptoms, the latter would have developed earlier, the depression having been there all along. It was not till imflammatory symptoms set in unmistakably that the pressure was manifest in the right-sided hemiplegia. It was therefore thought that a free escape of the inflammatory products by taking off presure might give relief, but, as the *post mortem* examination thirty hours after the operation revealed that pus had been present on the other side too, though not in quantities enough to cause distinct pressure symptoms.

(3) The rise in the pulse rate after the operation is, perhaps worth noticing. On the morning of the 3rd March, the

temp. stood at 101·4°F, and pulse rate was 93 per minute; the same evening the temperature rose to 103·4°F, but the pulse fell to 75 per minute. Evidently effusions had taken place in the interval in quantities large enough to cause this inhibition. On the morning of the 4th March, the pulse was only 66, but the temperature 102°F. At 1 P. M., the same day, shortly before the operation the temp. rose to 102·8°F, and the pulse was only 68. But at 5½ P. M., the pulse was 90 though the temperature was 103°F,—a very decided increase. The next morning, the temp. was 103°F, but the pulse was 122, *i.e.*, had assumed its proper ratio towards the temp. proving that pressure had ceased to operate on the inhibitory centres.

(4) The trephined bone shews the lines of fracture, of which there are several. In one spot the outer table is seen to have been driven into the diploe, without affecting the inner table. In another spot a small abscess cavity is seen in the diploe shewing that osteo-myelitis had set in. The smaller bits of bone shew the extent of comminution.

In conclusion I have to thank Dr. Sanders for his kind permission to me to do the operation, and to bring the case before the Society, Dr. Jones for giving chloroform, and Dr. Mackenzie for furnishing me with a copy of the *post mortem* report.

After this, the trephined piece of bone was handed round to those present, and the meeting concluded by the President remarking that, the Society was much indebted to Dr. Sarbadhikari for having brought this interesting and important case to their notice. He said, it was only the other day that he brought forward a capital case of Hysterectomy by abdominal section. To have followed up that paper, which was so much appreciated, by reading another this evening was, to lay the Society under a double obligation.

Medical News Letters.

LONDON LETTER.

[From Our Own Correspondent.]

Protective Vaccination against Cholera.

One of M. Pasteur's Assistants, M. Haffkine, is just about to start for India to test the preventive inoculation against cholera, which he has advocated. Before starting he gave a demonstration here in the Examination Hall, Thames Embankment. The method consists in obtaining an intensified virus by a series of inoculations into the peritoneal cavity of guinea pigs, till a virus is obtained which kills a guinea pig in 8 hours. From this the vaccine is obtained by cultivation at a temperature of 39°C. The method has been tried on about 50 people of both sexes, and in every case was harmless to health, there is feverishness and general malaise which passes off in 24 hours, after the second inoculation the symptoms are more marked. The whole recalls the sensation of bad cold in the head lasting one or two days.

The vaccine can be kept a considerable time. The day before this lecture, 6 guinea pigs were inoculated with a vaccine prepared on September 5th. A fatal dose of cholera virus was then injected into the peritoneal cavities of 6 other guinea pigs, and twice this dose into the peritoneal cavities of the 6 vaccinated pigs. All the former had died and the latter were quite well and lively, showing that the vaccination had enabled them to withstand twice the fatal dose.

M. Haffkine is going to India at the expense of himself and of M. Pasteur, he carries with him the best wishes of the medical profession, and a warm recommendation from the Government to the officials in India.

Antiseptics.

Sir Joseph Lister, in a post-graduate lecture delivered lately at King's College, described his present views about antiseptics. It appears that he has entirely discarded the use of solutions of perchloride of mercury, and now recommends a five per cent solution of carbolic acid. It will be remembered that this was the antiseptic originally recommended by Lister in 1870, but which for the last 10 years, has been almost entirely superseded by perchloride of mercury. The main arguments which Lister advances in favour of carbolic acid are that being an oily acid, it penetrates into the skin of the patient and of the operator, so thereby rendering unnecessary the purification of these parts by scrubbing and ether. He quotes experiments to prove that contact with a five per cent solution of carbolic for one minute will destroy all the pathogenic micrococci, and even anthrax spores are destroyed after 2-3 minutes. Fortunately for surgeons, there is only one spore bearing bacillus which is likely to infect our wounds, and that is the tubercle bacillus, the ordinary causes of suppuration being micrococci which are easily destroyed by carbolic acid.

Another point in favour of the use of carbolic acid is that it does not spoil the instruments in the way that mercurial preparations do. Solutions of perchloride of mercury kept in contact with the skin for any length of time are apt to produce irritation.

But most surgeons consider that there are very grave objection to the use of it for wounds in the strength of 1 in 20. There is no doubt that when this antiseptic was almost universally employed, especially in the days of the spray, that cases of carbolic acid poisoning were far from uncommon, especially in children. In my own experience at the London Children's Hospital 10 years ago, after any big operation, the urine shewed the usual sign of carbolic acid poisoning, my own chief objection to carbolic acid in 5 grains solution is the saponifying effect it has upon the fingers of all engaged in the operation, those who have much operation work, and employ carbolic have hands which appear absolutely coated with dirt, but according to them are perfectly aseptic, I much prefer an apparently clean hand. With regard to the preparation of sponges, Sir Joseph Lister's recommendation are also rather startling, he allows them to purify after use for several days in water, and takes them out and puts them in 1 in 20 carbolic for a short time. Most surgeons at the present day prefer the safer method of boiling, for it is universally admitted that boiling for five minutes, will destroy any known micro-organism.

In fact the method generally comployed is as follows :—

All instruments except knives are boiled for 5 or 10 minutes before the operation and then placed in a 1 in 30 solution of carbolic acid. Silk is the material generally used for ligature, and this is boiled for half an hour in a 1 in 500 solution of mercuric chloride, and kept in a solution of carbolic. The teeth of all forceps, etc., are cleaned with a nail brush. The part to be operated upon is scrubbed well the night before with soap and water, and if a very hairy part also with ether; a piece of gauze wrung out in carbolic acid 1 in 30 is placed on the skin and retained with a bandage. The operator, assistant, and nurses, all wash their hands very carefully with a hard nail brush for at least 3 or 4 minutes, the hands are then put in a solution of perchloride of mercury, 1 in 1000, for 2 or 3 minutes. The part to be operated upon is also sponged with the solution. The sponges having previously been boiled are wrung out in a similar solution. No irrigation is employed during the operation, but before closing the wound, it is filled with a 1 in 2000 solution of perchloride of mercury, which is allowed to remain while the sutures are passed, it is then sponged out. The wounds are closely united, and drainage tubes are almost unused, except in suppurating cases. Cyanide of mercury and zinc dressings are then applied with a layer of salicylic wool, and the whole kept on with a muslin bandage. No dressing is usually done for a week, when the wound is found to be healed, and the sutures are taken out. The part to be operated upon is usually surrounded with towels wrung out in 1 in 40 carbolic acid, so as to prevent any contamination of instruments or hands.

Pathological Society.

Mr. J. Hutchinson, Junr., shewed a specimen of a foreign body, probably a fish bone, which was found free in an empty hernial sac of a patient with symptoms of strangulated hernia. The patient died subsequently of peritonitis. It is supposed the fish bone perforated the gut when the hernia was down.

Mr. Rolleston, shewed a specimen of sarcoma of œsophagus. It was of large size, and had not produced any actual blocking of the canal, the mucous menbrane was not ulcerated, the patient had two secondary growths on the ribs.

Medical News and Comments.

Anti-Opium Literature.—The *Friend of China*, an anti-opium journal published in London, says in its February issue, "The *Medical Reporter*, of Calcutta, a paper which is, we understand, subsidised by the Indian Government, has a lengthy article in defence of the opium revenue." Further on, it hints at Government money being the cause of our advocacy. Whether subsidised or not, our article was written honestly, and we cannot help blushing at the charity of the missionary organ, but perhaps it judges us from its own experience of what money can do for a lame cause. No *Friend*, we would not sell our birthright to Government for a mess of pottage, or thus sacrifice our conscience and the right of free thinking. Our contemporary however does not deal with our remarks, that—England should purify her own home-life, and—the cry being a far one to China.

The Bombay Medical Degree.—An adjourned meeting of the Bombay University Senate was again held a short time ago to further consider the proposal of Dr. James Arnot "that in supersession of the previous resolution, the designation of the first medical degree shall be M. B., and that candidates for this degree must have passed before entering upon their professional studies, the intermediate examination in arts of this University, or the examination of some other University, which in the judgmeut of the Syndicate, is held to be equivalent to the intermediate examination of this University, and the Syndicate be requested to lay before an early meeting of the Senate, a draft curriculum for the said degree." Justice Telang, Vice-Chancellor, presided. The meeting was at once to proceed to vote on the amendment brought forward by Dr. Waters on Monday last, but Mr. Lee Warner moved that the meeting pass to the next business. Mr. Pherozshaw Merwanjee Mehta, who had previously intimated that he was desirous of withdrawing his amendment supported Mr. Lee Warner's motion, and there was no further business on the Agenda paper. The Senate was practically dissolved without deciding the M. B., question.

Surgeon-General Pinkerton.—A Bombay paper reviewing the services of Surgeon-General the Hon. John Pinkerton, who retired a few days ago, writes.—Dr. Pinkerton joined the service in August, 1855, arriving in the country in March following, and was ordered to Aden, on general dnty. In December, 1856, Dr. Pinkerton joined the Indian Navy, Bombay Harbour and Persian Gulf, and served in Persia during the war in 1857. In October 1858, we find him serving as acting Civil Surgeon and Registrar of Marriages at Broach. On his return to this country from furlough to England in March 1861, he was appointed to act as Port Surgeon at Bombay, on being relieved from the duties of which office, his services were placed at the disposal of the Commander-in-Chief. Dr. Pinkerton was then placed in medical charge of H. M's 20th Regiment N. I. at Dhulia and Ahmedabad and afterwards of H. M's 8th Regiment, N. I., at Sholapur and Neemuch. In March, 1863, he was appointed to act as Superintendent of Vaccination, Sind Circle. In August, 1875, having attained to the rank of Surgeon-Major of twenty years' service, Dr. Pinkerton officiated as Surgeon to the European General Hospital, Bombay, in addition to his other duties. Rising to the rank of Brigade-Surgeon in November, 1879, his services were placed at the disposal of Government in the Military Department, and he was appointed to officiate as Deputy Surgeon-General in Sind, being shortly afterwards confirmed in the appointment. In February 1888, Dr. Pinkerton's services were replaced at the diposal of Government in the Civil Department, and he was appointed to the high office of Surgeon-General with the Government of Bombay, which he held for a period of five years. Dr. Pinkerton was appointed a member

of the Bombay Legislative Council in June, 1892, for a period of two years.

Mr. Plimsoll and Seamen's Food.—Mr. Samuel Plimsoll attended a meeting of the Executive of the Amalgamated Seamen and Firemen's Union, held at the offices, Buckingham-street, Strand, on the 24th of January. Mr. Gammon, Vice-president, occupied the chair, and the General Secretary, Mr. J. H. Wilson, M. P. was also present.—Mr. Plimsoll said he had been violently assailed by the Committee of the Federated Shipowners, because of the evidence he gave before the Royal Commission in reference to cases of scurvy occurring among seamen as a consequence of the bad food supplied to them. It had been said that he only quoted the very worst cases, but why should he not have done so? However, as complaints had been made he would supplement his evidence by other authenticated statements. Mr. Plimsoll then read several extracts from Parliamentary Blue Books, and gave in detail numerous instances wherein bad, insufficient, and even putrid beef and pork had been supplied to ships making long voyages, and where sickness or death had followed as a natural result. In one particular case the crew had had no fresh meat during a six week's voyage, save a half-pound of mutton per man, once during each fortnight. There were, he said, innumerable cases in which the men had suffered horribly, but from the evil root of their misery the plant and flower of relief and comfort had sprung up. No more filthy meat would be sold at Deptford; indeed, he might add, that he had bought up the last lot himself so as to prevent it finding its way to some outgoing vessel. His only regret was that he could not compel some of the shipowners to be fed for a time on a diet of this description, with a Mrs. Squeers near to punish them if they complained of it. He rejoiced to think there was now an Act of Parliament which if faithfully administered, would prevent seamen from being poisoned by putrid food, and many more from being half-starved (cheers). On the proposition of Mr. Wilson, seconded by Mr. Gammon, Mr. Plimsoll was heartily thanked for his past services on behalf of sailors and also for his address on the present occasion.

Microscopical Society of Calcutta.—The monthly general meeting of members of this Society was held on the night of March 13th, at the Asiatic Society's rooms in Park-street. Mr. Holland presided, and after the proceedings of the meeting of the 13th ultimo had been confirmed, it was announced that Dr. Hamilton and Mr. McGuire had been elected members since the last meeting. Mr. Holland then stated that, owing to Mr. Wood Mason's serious illness, he was unable to give an account of the new *Daphnie* recently found by him in Mr. Justice Gurudas Banerjee's tank at Bhowanipore. The organism had appeared as a scum on the tank, and, after continuing for a few days, disappeared as suddenly as it came. All that Mr. Wood Mason was able to do was to send a drawing of the *radaphnia Indica* to the meeting for exhibition. Mr. Holland next exhibited a small appliance devised by .him, some five years ago, for the exmination of such objects as minute minerals and *Foraminefera*. The appliance consists of a hemisphere of ivory in which a concentric hollow hemisphere is sunk. The object to be examined is fixed with a lump of wax in the centre of the hemisphere and placed under the microscope. The form of the fitting enables it to be moved about in any direction, without its being moved away from the focal point. It was observed that the simplicity of the contrivance was its chief recommendation, and that it was curious that it had not previously suggested itself to any one. Mr. Holland added in conclusion, that it was now being used by several colleges in Europe. Mr. Simmons then read an interesting note on some recent researches among the bacteria, and this brought the meeting to a close.

Lady Dufferin Fund.—To commemorate the visit of the Lieuteuant-Governor to Chota Nagpore in November last, Raja Ram Narain Sing, of Ramgarh, contributed Rs. 5,000 to the Dufferin Fund, Baboo Surup Narain Siug of Pudma Rs. 1,500, Baboo Toral Narain Sing of Gowar Rs. 2,000, and Baboo Rameshar Nath Sing of Kunda Rs. 1,000. It is proposed to spend the money subscribed on founding a hospital for women in the town of Hazaribagh, with the exception of Rs. 500, which is intended by Baboo Surup Narain Sing for the benefit of the people of Lohardagga. The Lieutenant-Governor's thanks have been conveyed to the donors for their liberality and public spirit.

The Botanical Gardens.—The thanks of the Government of Bengal have been conveyed to the Maharani Sornomayi, of Cossimbazar, for waiving all claim to compensation for her land in front of Shalimar House, required to be taken up for the new road connecting Howrah with the Botanical Gardens. It is reported that the actual value of the land is small, but the Maharani might have put in claims for severance which would have amounted to many thousands of rupees, which would have been very difficult to settle, and which, if accepted, would have made the road so expensive that it would have been impossible to construct it. The road will not only be a great boon to the public, uniting Calcutta and Howrah with the Botanical Gardens along the riverside, but will also save a circuitous journey.

THE HURDWAR FAIR.

The Committee, appointed some time ago, to advise the Goverment of the N. W. P., on the sanitary measures to be adpoted in connection with the Hurdwar Fair, has submitted its reports. The Government Resolution on the subject is published in the *Gazette* of 16th February 1893.

The first improvment advocated by the Committee is regards the Herki-pairi or sacred pool. At present there is no flow of water through the pool. It is proposed to remove the accumulations of boulders and silt above and below the pool; to maintain an open channel or race with an exit tunnel so as to create a strong current along the river face; to reconstruct some

portion of the steps ; to pave the bottom of the pool ; and to construct a protective railing on the river side of the pavement.

The second suggestion relates to the Bhimgoda tank, the water of which was found to be in a very insanitary condition. It is proposed to construct a masonry conduit by which a continuous supply of pure water will flow into the tank.

The third suggestion is to improve the drainage of Hurdwar and Kankhal on a general scheme. This scheme would involve the construction of a main masonry drain through Hurdwar across the canal to Kankhal, and the lowlands beyond Kankhal.

These three works, the Lieutenant-Governor remarks, are necessary, and the two first should be considered urgent. The Chief Engineer has been requested to depute Mr. Nicolls to make at once the necessary plans and estimates, and to report when work can be begun. The main drain is an improvement which cannot be constructed at once, but no delay should occur in starting work on the two bathing pools, so that, if possible, the reform may be campleted before the next April fair.

The Irrigation Department will be asked to consider at once those portions of the Committee's report which concern the canal.

The Municipal Board will be addressed through the Commissioner, and asked to take into immediate consideration the following proposals of the Committee :—

(1) The construction of a masonry embankment from the Jummu Kothi to the sacred pool, and the protection of the river front by an embankment at all points where water is likely to become stagnant.

(2) The erection at intervals of platforms on supports to admit of drinking water being drawn from the river instead of from the margin of the stream.

(3) The survey of lodging-houses in Hurdwar.

(4) The construction of a Dharmsala or lodging-house to serve as a sanitary model.

(5) The introduction of the Lodging House Act into the Municipality,

(6) The planting of trees on Rori Island.

(7) The paving and metalling of lanes and roads.

(8) The inprovement of the drainage on a general plan, and the connection of all drains with the main drain.

(9) The demolition and removal of ruined houses.

(10) The survey of wells and their protection from contamination.

(11) The laying of a tramway for the removal of city rubbish and night-soil beyond the inhabited area of Hurdwar.

The funds at the diposal of the Municipal Board are insufficient for carrying out all the works which are desirable and which the Board will be requested to consider. In carrying out the three improvements mentioned in paragraph 5, the Government is prepared to lend its officers and to give assistance from Provincial Funds. For the rest, it is believed that many Hindoos, both within and without these provinces will be glad of an opportunity to co-operate in the measures to be taken for the improvement of the town. The co-operation of all Hindoos who are interested in the sanitation of Hurdwar, will be welcomed by this Government.

SUBORDINATE MEDICAL DEPARTMENT.

A public competitive examination will be held on the 3rd. April 1893, at the following stations for the admission of candidates to the Apothecary Branch of the Bengal Subordinate Medical Department, *viz.*, Calcutta, Allahabad, Agra, Lucknow, Meerut, Bareilly, Jubbulpore, Umballa, Meen Meer, Rawul Pindee, Peshawar, Simla, Landour, Murree, Rangoon, Ootacamund.

Copies of the Prospectus and any further information may be obtained from the following officers :—

Secy. to the Surgeon-General with the Govt. of India, Simla.

Secretary to the Surgeon-General with the Government of Madras.

Secy. to the Surgeon-General with the Govt. of Bombay.

Deputy Surgeon-General, Calcutta.
Ditto Allahabad.
Ditto Agra.
Ditto Lucknow.
Ditto Meerut.
Ditto Umballa.
Ditto Meen Meer.
Ditto Rawul Pindee.
Ditto Peshawar.

Senior Medical Officer, Kasauli.
Ditto Murree.
Ditto Rangoon.
Ditto Landour.
Ditto Bareilly.
Ditto Jubbulpore.

Civil Surgeon Ootacamund.

Inspector-General, Civil Hospitals, Bengal, Calcutta.
Ditto Ditto North-Western Provinces and Oudh, Lucknow.

Inspector-General, Civil Hospitals, Punjab, Lahore.

Deputy Surgeon-General, Assam, Shillong.
Ditto, Central Provinces, Nagpore.

Agency Surgeon, Quetta.

Residency Surgeon, Indore.
Ditto Hyderabad.

Principal, Medical College, Calcutta.
Ditto Lahore.

Principal, Medical School, Agra,

Principal, Grant Medical College, Bombay.

Principal, Medical Gollege, Madras.

Report of The Leper Asylum Committee.—Through the kindness of Dr. A. L. Sandel, who is a member of the Committee, we have been supplied with a full report of the Committe's recommendations regarding the new Asylum. In another part of this issue will be found a brief sketch of the Report with remarks on the subject.

Vital Statistics.

Calcutta.—Deaths during week ending 18th February, 1893. From Sporadic Cholera 15; Fevers 149; Bowel Complaints 42; All Other Diseases 159. Total 365. Ratio per 1000 of population per annum 27·9.

During week ending 25th February, 1893. Sporadic Cholera 14; Small-pox 1; Fevers 130; Bowel Complaints 36; All Other Diseases 152. Total 333. Ratio per 1000 of population per annum 25·4.

During week ending 4th March 1893. Sporadic Cholera 10; Small-pox 1; Fevers 117; Bowel Complaints 37; All Other Diseases 143. Total 208. Ratio per 1000 of population per annum 23·5.

During week ending 11th March, 1893. Sporadic Cholera 12; Fevers 117; Bowel Complaints 30; All other Diseases 125. Total 248. Ratio per 1000 of population per annum 21·7.

During week ending 18th March 1893. Sporadic Cholera 10; Small-pox 1; Fevers 106; Bowel Complaints 32; All Other Diseases 127. Total 276. Ratio per 1000 of population 21·1

Bombay.—Deaths during week ending 14th February, 1893. Small-pox 3; Fevers 95; Bowel Complaints 39; All Other Diseases 322. Total 459. Ratio per 1000 of population per annum 29·04.

During week ending 21st February, 1893. Small-pox 1; Fevers 99; Bowel Complaints 31; All Other Diseases 290. Total 421. Ratio per 1000 of population per annum 26·64.

Madras.—Deaths during week ending 17th February, 1893. Measles, males 8, females 15; Fevers, males 45, females 57; Dysentery, males 21, females 19; Diarrhœa, males 7, females 2; Other Diseases, males 80, females 60. Total males 161, females 153. Total males and females 314. Ratio *per mille* per annum 36·0.

During week ending 24th February, 1893. Measles, males 17, females 17; Fevers, males 47, females 49; Dysentery, males 21, females 15; Diarrhœa, males 5, females 4; Other Diseases males 79, females 80 Total, males 169, females 175. Total males and females 344. Ratio *per mille* per annum 39·5.

During week ending 3rd March, 1893. From Measles, males 18, females 21; Fevers, males 51, females 57; Dysentery, males 29, females 17; Diarrhœa, males 7, females 8; Other Diseases, males 91, females 67. Total, males 196, females 170. Total males and females 366. Ratio *per mille* per annum 42·0.

Deaths during the week ending 10th March, 1893. Measles males 25, females 12; fevers males 50, females 70; Dysentery, males 13, females 19; Diarrhœa, males 5, females 5; Other Diseases, males 54, females 71. Total, males 147, females 177. Total, males and females 324. Ratio *per mille* per annum 37·2.

Rangoon.—Deaths during week ending 17th February, 1893. From Fevers, males 39, females 9; Diarrhœa, males 4; Dysentery, males 4, females 2; Other Causes, males 33, females 28; Total males 80, females 39. Ratio *per mille* per annum 34·32.

During week ending 24th February, 1893. From Fevers, males 38, females 8; Diarrhœa, males 7; Dysentery, males 2; Other Causes, males 40, females 25. Total, males 87, females 33. Ratio *per mille* per annum 31·72.

During week ending 3rd March, 1893. From Cholera males 1; Fevers, males 35, females 5; Diarrhœa, males 6; Dysentery, males 1, females 1; Other Causes, males 48, females 19. Total, males 91, females 25. Ratio *per mille* per annum 33·45.

During week ending 10th March, 1893. From Cholera, males 1; Fevers, males 27, females 6; Diarrhœa, males 8; Dysentery, males 2, females 2; Other Causes, males 41, females 40. Total, males 79, females 40. Ratio *per mille* per annum 34·32.

Delhi.—Deaths during the month of February, 1893. Fevers, males 105, females 94; Dysentery and Diarrhœa, males 11, females 5; Injuries (accidental) males 1, females 1; Other Causes, males 88, females 85. Total deaths 390.

Reviews and Notices.

HOBLYN'S DICTIONARY OF MEDICAL TERMS.

Twelfth Edition, Revised with additions,

By J. A. P. Price, B.A., M.D.,

(Whittaker and Co., London.)

The volume before us is one which it is very hard to review, because one does not care to read it through, and the best test of a work of this kind must be its daily use, as it is only by this method one can find how reliable it is. The present edition has been revised by Dr. J. A. Price, who has added considerably to the text, especially in the field relating to bacteriology, and it also illustrates the rapid advances that have been made during the past few years in all branches of medical science. We have been constantly referring to it during the past three months, and it seems to us that this work must supplant the older dictionaries, because it is up with the times and is full of information. Whilst only claiming to be a dictionary, it is in reality a small Encyclopædia of Medicine and Surgery, giving in a concise form and within small compass the latest and most reliable information on all medical subjects. The additions by Dr. Price are especially valuable, owing to the great strides which have lately been made in bacteriological research. The volume itself is attractively got up, and the type used is unusually good, giving an inviting appearance to the book on inspection, and does much credit to the publishers. It is offered at 10s. 6d., and is well worth the money.

CATECHISM SERIES.

Part III, Materia Medica, 1892; Part V, Public Health, 1892; Part VI, Anatomy, 1891.

(1s. each,—E. and S. Livingstone, Edinburgh).

These little books we believe will be very useful to the student, just before appearing for a *viva voce* examination. They are exactly what the publishers call them—"Catechism Series," and are *not intended* to take the place of the usual text books. Another benefit which appears to us to be derived from questions and answers as formulated in these books, is a means of self-instruction and how to answer questions briefly, an accomplishment which is not at all easy to acquire.

ANGLO-SWISS CONDENSED MILK COMPANY.

Although the preparations of this Company can hardly be called novelties, we notice them on account of their great value in medical practice and domestic use. We have often had

occasion to recommend their condensed milk and always with satisfaction. It is claimed that their brands are manufactured from cow's milk, pure and simple, containing all its original fat and are free from all additions excepting cane sugar. The results of analyses have proved that these statements are quite correct, and of samples thus analysed none were found to contain less than 9% of milk fat, and varying from a little over 9% to 11%, the other constituents of normal milk being also present with the addition of the cane sugar already referred to. The samples which were submitted for analysis, we learn, were free from preservatives or adulterants, which increases the value of the milk immensely. The process of manufacture is very interesting, the Company is a very extensive one, and have three factories in England alone, the manufacture being conducted under very strict principles. Their brands are thoroughly reliable, they are in extensive and popular use throughout India, although the market is crowded with others which seem not to be able to stand the climate, and therefore are inferior. It appears to us from our own experience and from the results of the analyses which we have slightly sketched, that the Indian public have in the Anglo-Swiss Co's Milk-maid brands—genuine, safe, and reliable articles for consumption.

Government Medical Notifications.

GAZETTE OF INDIA.

No. 547-*G.*—The medical charge of the Magistracy Jail and Detachment, Erinpura Irregular Force at Abu, was transferred on the afternoon of the 8th February, 1893, from third class Hospital Assistant Nagesh Keshev Kelker, attached to the Charitable Dispensary, to 1st class Hospital Assistant Ashgar Ali Khan, in charge of the Rajputana Agency Hospital.

No. 572-*G.*—Surgeon-Major A. Adams, M.D., Indian Medical Service (Madras), Residency Surgeon, Western Rajputana States, availed himself on the afternoon of the 13th February, 1893, of the privilege leave granted him in this Office Notification No. 263-G., dated the 26th January, 1893.

No. 576-*G.*— First Class Hospital Assistant No. 149, Ahmud Husain, attached to the Erinpura Irregular Force, was granted sixty days' leave of absence on full pay, with effect from the 15th February, 1893.

No. 213.—Surgeon-Lieutenant-Colonel. R. Exham, Army Medical Staff, to be Secretary to the Principal Medical Officer, Her Majesty's Forces in India, sub. *pro tem.*, *vice* Brigade Surgeon-Lieutenant-Colonel W. Taylor, M.D., Army Medical Staff, who has been summoned to England for duty in the. Office of the Director General, Army Medical Department, Dated, 27th February, 1893.

No. 592-*G.*—Third Class Hospital Assistant Mahomed Zahurul Huq, attached to the Hindaum Dispensary, was granted an extension of privilege leave for twenty days in continuation of the leave already sanctioned in this Office Notification No. 3886-G., dated, 19th October, 1892. He returned from leave on the afternoon of the 27th September, 1892.

No. 593-*G.*—Third Class Hospital Assistant Bani Madhab Ghose was granted an extension of leave for five months on medical certificate, in continuation of the privilege leave granted to him in this Office Notification No. 3887-G., dated, 19th October, 1892. The whole period of his leave was commuted into sick leave under Article 266 of the Civil Service Regulations.

No. 594-*G.*—First Class Hospital Assistant Syed Noor Khan attached to the Jeypore Central Jail, was granted one month's privilege leave from 21st October to 20th November, 1892, and Third Class Hospital Assistant Allimullah, of the Native States Reserve List, was appointed to officiate for him during his absence.

No. 595-*G.*—Third Class Hospital Assistant Shive Shunker Dayashunker, attached to the Lansdowne Hospital at Jeypore, was granted one month's privilege leave from 28th October to 27th November, 1892. Third Class Hopital Assistant Chunni Lall, of the Native States Reserve List, was appointed to officiate for him.

No. 596-*G.*—Second Class Hospital Assistant Luchmon Dass, attached to the Bhilwara Dispensary in the Meywar, State, was granted sixteen days' privilege leave from 12th to 27th November, 1892, and Third Class Hospital Assistant Abdus Samad, of the Native States Reserve List, was appointed to act for him.

No. 597-*G*—Second Class Hospital Assistant Myia Singh, attached to the District Jail at Jeypore, was granted twenty-five days' privilege leave from 6th to 30th November, 1892, and Third Class Hospital Assistant Mukand Ram of the Native States Reserve List, was appointed to officiate for him.

No. 598-*G.*—Third Class Hospital Assistant Kabir-ul-Hussain, attached to the Pisangan Branch Dispensary in Ajmere, was granted privilege leave for one month and fifteen days from 17th November to 31st December, 1892, and Third Class Hospital Assistant Abdus Samad, of the Native States Reserve List, was appointed to officiate for him, from 4th to 31st December 1892.

No. 599-*G.*—Third Class Hospital Assistant Gunpatram Nurbheram Pathak returned on the afternoon of the 14th December, 1892, from the leave granted him in this Office Notification No. 4534-G, dated, 6th December, 1892.

No. 600-*G.*—Third Class Hospital Assistant Mungali Pershad, attached to the Machilpur Dispensary in Kerowlee, was granted fifteen days' privilege leave from 15th to 29th December, 1892.

No. 601.-*G.*—Third Class Hospital Assistant Rahim Bux returned on the forenoon of the 7th January, 1893, from the leave granted him in this Office Notification No. 3892-G., dated 19th October, 1892, and Third Class Hospital Assistant Allah Beti reverted to the Native States Reserve List of Hospital Assistants.

No. 602-*G.*—Third Class Hospital Assistant Allimullah, of the Native States Reserve List, was granted privilege leave for twenty-five days from 19th December, 1892, to 12th January, 1892.

No. 603-*G.*—Third Class Hospital Assistant Raghunath, attached to the Jail Hospital at Oodeypore, was granted privilege leave for three months from 1st November, 1892, to 31st January, 1893, and Third Class Hospital Assistant Muzharul Huq, of the Government Reserve List, was appointed to act for him during his absence.

THE ASSAM GAZETTE.

No. 1319J.—The following Notification by the Government of India is republished:

No. 90.—The services of Surgeon-Captain J. C. Lamont, I.M.S., Bengal Establishment, are placed temporarily at the disposal of the Chief Commissioner of Assam.

No. 1327J.—Furlough for eighteen months, under article 340 of the Civil Service Regulations, is granted to Surgeon-Major R. Neil Campbell, M.B., Civil Surgeon, Khasi and Jaintia Hills, with effect from the 1st April 1893, or from the subsequent date on which he may be relieved.

No. 1328J.—Surgeon-Major E. F. H. Dobson, M.B., Civil Surgeon, Goalpara, is transferred to the Khasi and Jaintia Hills district.

No. 1329J.—Surgeon-Captain J. C. Lamont, I.M.S., Bengal Establishment, whose services have been placed temporarily at the disposal of the Chief Commissioner of Assam, is appointed, until further orders, to be Civil Surgeon of the Goalpara district, with effect from the date of taking over charge from Surgeon-Major E. F. H. Dobson, M.B.

No. 14.—Third-grade Hospital Assistant Sita Nath Rai, in medical charge of the Jaintiapur Dispensary in the Sylhet district, is transferred to the medical charge of the Muchikandi Dispensary in that district.

No. 15.—Third-grade Hospital Assistant Nisi Kanta Mohinta, in medical charge of the Muchikandi Dispensary in the Sylhet district, is transferred to the medical charge of the Jaintiapur Dispensary in that district.

No. 16.—Third-grade Hospital Assistant Aditya Mohan Das Gupta, a Supernumerary at Dibrugarh, is, on relief, transferred to Tezpur and posted there for duty as a Supernumerary.

No. 17.—Third-grade Hospital Assistant Amrita Lal Basu, a Supernumerary at Tezpur, is transferred to Nowgong and posted there for duty as a Supernumerary.

No. 18.—Second grade Hospital Assistant Amir Uddin, in medical charge of the Roha Dispensary in the Nowgong district, is transferred to Dibrugarh and posted there for duty as a Supernumerary.

No. 19.—Third-grade Hospital Assistant Bipin Bihari Chakravarti, in medical charge of the Bogribari Dispensary in the Goalpara district, is appointed to the medical charge of the Roha Dispensary in the Nowgong district.

No. 20.—Third-grade Hospital Assistant Edu Baksh, in medical charge of the Assam-Bengal Railway Establishments in Lumding section, is appointed to the medical charge of the Bogribari Dispensary in the Goalpara district.

No. 21.—Privilege leave of absence for one month, under article 291 of the Civil Service Regulations, was granted to Third-grade Hospital Assistant Prasanna Kumar Purkayastha, attached to No. 2 Division, Nichuguard-Manipur Road, with effect from the 15th February 1893.

No. 22.—Third-grade Hospital Assistant Kailash Chandra Das (2nd), employed on itinerating duty in connection with the treatment of *kala-azar* cases in the Mangaldai subdivision in the Darrang district, is appointed to the medical charge of the Sipaghar Dispensary in that district, with effect from the date of taking over charge.

No. 23.—Third-grade Hospital Assistant Upendra Chandra Charturji, a Supernumeray at Silchar, is appointed to the medical charge of the Dumni Chauki Dispensary in the Darrang district.

No. 24.—Babu Jadab Govinda Biswas, a passed student of the Dacca School of Medicine, is appointed on probation for six months a Civil Hospital Assistant in Assam, and posted to Sibsagar for duty as a Supernumerary.

G. O. C. C.

90. Nursing Sister E. M. Russell is permitted to resign her appointment in the Indian Nursing Service, with effect from 1st April 1893.

100. Nursing Sister Frances Cameron is brought on the strength of the Indian Nursing Service, with effect from 7th December 1892.

127. The undermentioned officer has passed the examination in the Parvatiya (Colloquial) language at Bakloh on the 20th January 1893 :—

Surgeon-Lieutenant-Colonel A. S. Reid. } Indian Medical Service.

131. The undermentioned officer is granted leave to England :—

Army Medical Staff.—Surgeon-Captain J. C. Weir, for six months, on medical certificate.

171. The Commander-in-Chief in India is pleased to make the following appointment :—

1st Punjab Infantry.—Surgeon-Captain F. R. Ozzard, from the officiating to the medical charge of the regiment, *vice* Surgeon-Captain L. J. Pisani.

179. The undermentioned officer has leave of absence :—

180. Sub-Assistant Apothecary W. J. P. Martin is granted three months' leave in India, on medical certificate, under the Leave Rules of 1889.

Domestic Occurrences.

BIRTHS.

Maidment—On March 11th, at Kurnool, the wife of Surgeon-Captain F. G. Maidment, I.M.S., of a daughter.

Wilkie.—At Simla on the 13th March 1893, the wife of Surgeon-Major Wilkie of a son.

MARRIAGE.

Bidie—Gillatt—On the 23rd February at St. Peter's Cranley Gardens, London, S. W, by the Rev R. Armytage, Chaplain to the Guards, assisted by the Rev Dr. Ridgeway (formerly Dean of Glasgow), Surgeon-Lieutenant George Bidie, of the Madras Army, to Margaret, only daughter of the late Mr. J. T. Gillatt, Woodbank House, Sheffield, and Mrs. Gillatt, of Broomknowe Row, Dumbartonshire.

Acknowledgments.

ANSWERS TO CORRESPONDENTS.

Dr. Lennox Moore, London.—Many thanks for the paper you have sent us.

Dr. Russell, Darjeeling.—Many thanks for your kind letter.

Dr. Nugent.—Your second paper appears in this number.

Medical Student, Lahore. We will do what we can in the matter.

Dr. Ghosal.—Next issue.

Dr. A. P. Dass.—Your paper on "Pernicious Anæmia" will appear in an early issue.

Medicus.—It will take some time before anythig definite happens, all you can do is to wait and see.

Indignant.—Your complaint is unreasonable.

M. D.—We are greatly obliged to you, but you have established nothing.

Letters and Communications have also been received from the following :—

Surgeon-Captain Ronald Ross, I.M.S., Bangalore; Surgeon-Lieutenant-Colonel E. G Russell I.M.S., Surgeon-Major, C.B., Maitand I.M.S., Neemuch; Surgeon-Major Parakh, I.M.S., Bombay; Assistant-Surgeon M. L. Desai, Broach; Hospital Assistant Assa Ram, Kabirwala; Dr. R. N. Ghosal L.M.S., Calcutta; Dr. R. G. S. Chew, M.D., C.M., M.S.C., Calcutta; Dr. N. C. Mittra, M.A., M.B., Ranchee; Dr. R. P. Banerjee, B.A., G.B.M.S.L., Pachbadra, Rajputana; Hospital-Assistant Agia Ram, Murree; Dr. Leonard A. Bidwell, F.R.C.S., London; Dr. Amulya Churn Bose M.B., Calcutta; Dr. Fleming, Civil Surgeon, Suri, Birbhum; H. C. Holmes Esq., Superintending Surgeon's Office, Sialkote; Dr. Keshaw Lal Ichachand, Songad; Surgeon-Major P. F. O'Connor, I.M.S., Meerut; Dr. H. J. Augustine, Calcutta; Dr. S. P. Sarbadhikari, M.D., Calcutta; Dr. A. L. Sandel, M.B., C.M., Calcutta; Dr. Lennox Moore,

London; Hospital-Assistant C. A. Wesley, Shorapur; Dr. Wright, London; Dr. Green, London; Dr. T. M. Shah, State Medical Officer, Junagadh; Dr. R. Nugent, L.R.C.S., and P.E., Kidderpore; Dr. A. P. Dass, L.M.S., Calcutta; Dr. J. C. Day, M.B., Assam; Dr. Pillai, M.B., Madras; Hospital-Assistant H. N. Bottliwallah, Matunga, Dadar; Dr. K. P. Bagchi, Semerdia, Chuadanga; Dr. Luckput Roy, Sehore; Hospital Assistant F. Hilbert, Moulmein; H. Day Esq., S.M.D., Calcutta; Dr. Buldeo Ram, Betul; Hospital Assistant Bugwan Dass, Quetta; Dr. R. S. Poredi, Akalkote; Dr. B. B. Chatterjee, Uttarpara, Bally; Dr. P. C. Singh, Port Blair.

Periodicals.—The Lancet—The British Medical Journal—The Edinburgh Medical Journal—Indian Medical Gazette—Journal de Mèdicine de Paris—Modern Medicine—Australian Medical Journal—The Sanitary Journal—The Medical and Surgical Journal—The Medical Times and Register—The Lancet-Clinic—The Medical Bulletin—The Medical and Surgical Reporter—The New York Medical Journal—The Family Doctor—The Medical Week—Health Messenger—Health—The Medical Record—British and Colonial Druggist—Chemist and Druggist—The Medical Review—New Orleans Medical and Surgical Journal—The Medical Monthly—The Scalpel—The Humanitarian—The Popular Science Monthly—The Sanitary Record—Merck's Medical Bulletin—The Southern Medical Record.—The Sanitarian—Doctor's Weekly—The Post Graduate—The Therapist—The Universal Medical Journal—The Medical Compend—The Medico-Chirurgical Review—The Medical Fortnightly.

Books and Pamphlets.—The Medical Annual, 1893 (John Wright & Co., Bristol)—The Physician; His relation to the Law, and the Legal Rules governing the Collection of his Fees, By H. G. Blaine A.M., M.D., (Blaine Bros., Publishers, Toledo, Ohio)—Cones & Co's., Directory for 1893 (Cones & Co., Calcutta)—Mr. Harrington's Incinerator (Traill & Co., Calcutta). —The Fourth Annual Report of the Chaitanya Library (Elm Press, Calcutta).

Government Gazettes.—Gazettes of the Government of India and Assam—G. O. C. C., By His Excellency the Commander-in-Chief.

Newspapers.—The Home News—The Indian Daily News—The Statesman—The Eastern Guardian—The Evening Star—Newman's Bradshaw—Hope—The East—Islam—Bombay Native Opinion—Bangalore Spectator—Nagpur and Berar Times—Progress—Punjab Patriot—Arrakan News—Rangoon Gazette Weekly Budget—The Express—Madras Advertiser—Behar Herald and Indian Chronicle—Bombay Guardian—Banner of Asia—Tribune—Beluchistan Gazette—Western Wit and Wisdom—Indian Empire—Gwalior Gazette—Eurasian Recorder—People's Friend—India Watchman—Western Star—Messenger of Light—Indian Nation—Indian Union—Poona Observer—National Guardian—Indian Engineering—Courier—The Argus—The Bengal Times—Signs of the Times—The Indian Textile Journal—The Amrita Bazaar Patrika (Weekly Edition).

Notice.

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Original Articles.

THE TREATMENT OF TUBERCULOSIS WITH TUBERCULOCIDIN.

BY PROFESSOR E. KLEBBS.

(Continued from page 6, Vol. II.)

THE TREATMENT OF TUBERCULOSIS IN HUMAN BEINGS.—These investigations owing to the short time during which they have been carried out, first with Tub. dep. and then with Tuberculocidin (since Easter and November 1891 respectively) have not of course as yet been perfectly concluded. The material, which, thanks, to the coöperation of numerous colleagues, I can bring forward here includes about 100 cases, but of these only 75 have been so far reported with sufficient accuracy or have reached such a stage that it is possible to divide them into the usual three categories of cured, improved and uncured. My own cases number 33; the other 42 have been observed by others. Of these I reckon as cured 8 of my own and 6 other cases, together 14=18·6%; as improved, 21 of my own and 24 other cases together 45=60%. To this class belongs besides a quite considerable list of cases which are characterised as "improved" generally, without sufficient accompanying data. These are of course not included in the total of 75 cases. As unimproved must be reckoned 2 of my own cases and 12 others, together 14=18·6%; 2 cases died=2·6%. Among the unimproved cases is a number of such as belong to the most severe; some improvement they certainly exhibit, but in consequence of the general state of the body do not justify the expectation of recovery. In this whole list also those cases are not included in which local tuberculosis was treated with TC. often with very favourable results. This is specially true of laryngeal tubercle, whilst we can produce comparatively only a few observations of lupus. The greater part of the cases included in the statistics are severe, or at least pronounced cases of pulmonary tuberculosis in which the changes of the lungs are most prominent. These latter cases may also be preferably employed here in order to convey an idea of the action of TC. upon diseased human beings.

In making a rational division of these cases according to their severity, one must simultaneously consider the extent and nature of the anatomical alteration as well as the general disturbances; it is known how frequently very slight anatomical disturbances in the lungs are associated with severe general symptoms especially in patients hereditarily disposed to the disease. The significance of these cases is determined not merely by the extension of the colonies but also by the inherently increased infectiousness of the bacilli and the diminished capability of the organism to resist and destroy them. Then consideration must be taken of the fact that lesions of certain organs, especially of the cerebral meninges or of the brain itself, are of graver import than those in other organs. Although in these cerebral cases very frequently only slight pulmonary complication can be detected, they must be characterised as pre-eminently dangerous, especially according to experiences with crude tuberculin. I will therefore mention this complication first. Both among my own cases and among those observed by others is one such in which the occurrence of cerebral tuberculosis may be assumed with certainty. Probably cases of this kind, as the anatomical examination of the bodies of tuberculous patients indicates, are more common than is indicated, symptomatically. It is therefore very significant that neither in the two cases named nor in any of the others was an aggravation of the existent cerebral symptoms or a new manifestation of such symptoms observed. Where, as in my case (a young powerfully-built man), the threatening symptoms—presistent headache, insomnia, reduced pulse-rate with progressive emaciation and slight pulmonary changes—gradually abate under the influcnce of TC. and entirely disappear for more than a quarter of a year, one can scarcely doubt the connection between the therapeutical action and the disappearnce of the symptoms. This result is the more significant since the pulmonary complications, especially the recent infiltration in the right lower lobe, were also resolved during the cure, while a right apical infiltration still persists. On the other hand the febrile symptoms which occasionally appeared during the otherwise afebrile course of the case, indicate that the process can by no means be regarded as a passive one. The result was attained by 58 injections in which 2 grains of TC. were employed. The cerebral symptoms have since been entirely absent and the body-weight has increased nearly 7¾ lbs; the general health has remained entirely unchanged since Dec. 17th, 91, when the injections were concluded. This case shows very clearly how much less are the dangers of Tuberculocidin than of crude Tuberculin, which as known has proved exceedingly injurious in meningeal tuberculosis. There is absolutely no indication that during the TC. treatment a miliary extension of the tuberculous process can take place. Neither in our case nor in those of the others have renal symptoms appeared, which during the treatment with crude Tuberculin produced only too often profound disturbances of the general well-being. This fact agrees with the conclusion we formed from the experiments on animals viz., that the TC. treatment never leads to a necrosis of tissue, nor to an increase and extension of the tubercle bacilli.

An equally favourable result was yielded by those cases of

Pulmonary Tuberculosis,

the gravity of which was indicated by constantly recurring hæmorrhage with comparatively slight infiltration since, just

in these cases the danger of a miliary extension appears to be most imminent. Among these I can mention one from my own practice which was completely cured. The patient (a lady) in spite of constantly recurring hæmorrhage during the whole of last summer, bore the treatment not only without any considerable disturbance, but with so complete a resolution of the disease, increase of weight and improvement of general well-being, that the medical men of her native district, at first very sceptical, openly expressed their astonishment at the result. In such cases it is of course necessary to proceed with great perseverence, and not to be frightened into suspending the treatment by the constantly recurring bleeding from the lungs. Unfortunately the necessary strength of character is not possessed by all patients. The case just mentioned is distinguished by the fact, that the undeniable success of the treatment was attained by comparatively small doses. In the course of the months June and July, slightly under 3 grains was used in 28 injections, and hereby the process completely arrested. In August, 7 injections of 1/6th grain each, were given; in November and December a series of 16 injections of from 1/3rd grain to 8 grains. For the whole 51 injections 50 ms of T C. were used. The patient's condition was so very satisfactory, that the last series of injections was undertaken only as a precautionary measure. The body-weight increased from 119 to 127 lbs, the subjective troubles entirely disappeared, and only a slight apical dullness is still present. The symptoms of the formation of cavities at first manifest, were at the close of the treatment no longer traceable, the affection in the lower lobe entirely disappeared. Quite similar cases which were observed by others will be communicated in the detailed publication.

It may be especially emphasised in these cases of almost certain cure, that the treatment, save when they are of severe febrile character can be entirely carried out without confining the patients to bed. The above-mentioned lady was ordered to keep her bed only a few days on account of the bleeding from the lungs. If however neither fever nor hæmorrhage be present, the treatment can be continued for many months without disturbing in any way the ordinary avocations of the patient. A particularly characteristic clinical history of this kind was afforded by a Mr. Henry S., a merchant. This patient for more than a year had visited the most various health resorts, undergone different methods of treatment (creasote, Koch's injections), and had been thereby greatly disturbed in his business apart from the great expenses of his journeys. At the beginning of 1891 he underwent Koch's treatment in Ajaccio, which though carried out very energetically resulted in only a passing improvement (similar improvement of only very brief duration is reported by other medical men who treated with TC: I refer the reader for these to the detailed report). Mr. S. was given in Ajaccio 25 injections of 1/100th of a grain up to 5 grains and later a shorter course of 8 injections of 1/25th grain to ½ grain, altogether slightly over 12½ grains of crude Tuberculin. Although the first violent reactions gradually abated, yet his condition was such that by July he was obliged to again seek advice. From July 24th to Aug. 18th he was given 18 injections of 2½ grains of Tub. dep., then from Aug. 21st to Oct. 6th, under my care, 41 injections with 54 grains Tub. dep., and from Nov. 8th '91 to Jany 16th '92, 58 injections of Tuberculocidin with altogether 3½ drms. During the whole of the treatment conducted by me the patient constantly attended to his business, and at the same time his health continually improved; his appearance, physical and general powers could be characterised as normal. The left pulmonary infiltration at the back reaching to the point of the scapula has shrunk to two small centres of which the upper reaches to the middle of the shoulder-blade, whilst the lower includes only a small circumscribed area. The traces of an old pleuritis in the lower parts of the right lung have entirely disappeared and respiration which on Aug. 20th was described as accompanied by soft, sharp, feeble murmurs, has become perfectly normal. On Dec. 27th, loud normal respiratory sounds were everywhere audible. In this case also renal bleeding and tubercle bacilli appeared in the urine during the injections with Koch's crude Tuberculin, which subsequently entirely disappeared during the use of Tub. dep. and TC.

Even though in all these cases the possibility must be admitted that tubercle, though no longer present in the expectoration, may persist in the shrunken tissues and relapse cannot be altogether impossible, yet, according to all previous experience, even in such a case the result would be less grave on account of the diminution of the infected area as well as owing to the reduced virulence of the bacilli due to the action of the TC. It is therefore only necessary to keep such patients for some time under observation *i.e.*, to impress upon them that they must present themselves for examination on the slightest aggravation of their symptoms, or if catarrh, fever, &c., set in.

How favourably T C. acts upon such relapses can be seen in those cases in which transient febrile attacks sometimes occur where otherwise there is only slight fever or as is commonly seen none at all. Such a course was run by one of my own cases among others. Mr. M. N. S., clerk, 18½ years old, usually has the low temperatures of 36—37° C.; from time to time however he has febrile accessions when the temperature may be 40°; a few injections mostly of 1/10th grain of T C. are then sufficient to reduce the fever. The disturbance is preceded by local chest pains and objectively by the appearance of rough respiratory murmurs, sometimes also by saccades at the close of the inspiration; these abnormalities generally manifest themselves at the points of most recent infiltration in the apex of the left lower lobe. It seems probable to me that during the relapses a secretion of albuminous character takes place in the alveoli owing to which their walls more strongly cohere, and hence during inspiration can only be separated with difficulty. Pleuritic exudation which, especially when the treatment is delayed, is very apt to form from such foci, and which reveals itself by dry friction murmurs and pain, disappears with equal rapidity as the pulmonary symptoms if the TC. injections are made betimes.

As is readily intelligible, the conditions are much less favourable when extensive infiltration and sometimes breaking down

of tissue, the formation of cavities and hectic fever is already present to a pronounced degree. The first injections are frequently followed in a very short time by a recession of the febrile symptoms, but mostly this soon gives place again to relapse. In such cases it is possible only by very large and prolonged injections, if at all, to arrest the morbid process. In the most severe cases of this kind the advanced marasmus of the patients appears to be the chief hindrance to improvement, and here therefore the recent methods of treatment which aim at improving the nutrition, are of first importance. Among them I have adopted with great benefit that with Benzosol of the Hoechst Farbwerke; others are the rest-cure and superalimentation, as well as finally air-cures particularly with the pure and ozone-rich air of Davos.

The inhalations of ozonised air with their beneficial effects upon the formation of blood and increase of weight recommended by Drs. Labbè and Oudin (Paris) and practised on the large scale in St. Raphael, induced me to make experiments with the method in a few severe cases; these have led to not unfavourable results, although not yet of such a character as to be regarded as decisive. By experiments made on the way from Zürich to Davos I was able to prove a constant increase of the ozone content of the air. Whilst in Zürich and the neighbourhood the proportion present=0 according to guaiacum paper which was exposed to a strong current of air during a railway journey of ¾ of an hour there was in the district of the Walensees to Ragaz a clear reaction, in Prättigäu a further considerable increase three or four fold, whilst in Davos it could be estimated as at least five or six times as much. This *experiment* was the more reliable as the external conditions, *heavy* clouds and snow-fall, were the same in all places. I can therefore assume that a good part of the undeniable curative action of Davos air is to be ascribed to this factor.

Tuberculosis of external parts.

Further, among these severe cases with constantly recurring fever, I have a number which can be looked upon as almost or entirely cured. This is specially clear in those cases in which the tuberculous affection chiefly appearing upon the external parts, skin, bones and joints, is more readily accessible to observation. I have among my patients a man 30 years of age who had a tuberculous affection of the bones for a long time and had many times been treated by operation. When on Aug. 10th, he came under treatment, the left knee joint was severely affected, being enormously swollen and penetrated by large fungous granulations which almost entirely prevented walking. In about 3 months 148 ¾ grains of Tub. dec. and TC. were used = 1·7373 of the body weight. The frequent febrile attacks during which the temperature that, in August exceeded 39° C., attained nearly to the same figure in September, gradually fell off during the month October and the beginning of November under the continual injection of 2—3 grains of TC. so that the temperatures during this time mostly lay between 36° and 37·5°, rarely approaching 38° C.; from Nov. 7th during the same injections, somewhat increased only towards the close, the readings of the thermometer were between 36° and 37°, very seldom exceeding the latter by a few tenths of a degree. The condition of the knee-joint which earlier permitted only movement on crutches improved visibly, the circumference decreased, soft granulation masses gradually disappeared, and now there is scarcely any perceptible difference in the two knees and the patient can undertake light labour.

In another case of the same class, the patient 19 years of age, was very feverish and emaciated and suffered from suppuration, fistulæ and extensive undermining of the skin of the back, the process originating in the ribs or perhaps in the vertebræ. He rapidly recovered under treatment with TC., the fistulæ closed up, under simultaneous surgical measures, almost completely, and the fever originally rising to near 40°, abated; yet in this case no perfect cure was effected, since at the present time the temperature not infrequently rises over 38°. The lungs are very little involved but probably there persists some tuberculous infection of the bones and perhaps also of the intestine. That the former may be completely cured is shown by the previous case, in which a swelling of the right half of the frontal bone first increasing during the treatment, again disappeared, as it was continued, so that there is only a slight hard eminence.

Of the very severe

Pulmonary Tuberculoses,

which belong to this class, I will mention only one, Mr. A., 29 years of age, who, in spite of excessive emaciation aud severe larynx affection had undergone the injection treatment twice. During the first 36 injections, fever, of highly typical hectic character with very great daily fluctuations, frequently rose to about 40°, and the temperature fell to a moderate extent (seldom exceeding 38·5° and never rising to 39°), only after the use of 7½ drms in doses increasing to 1/3rd grain daily. With some fluctuations a further fall was attained after a short pause, by smaller injections of 1/10th grain of TC. which were followed, as the fever again increased by 10 injections of 1/6th grain. Not until these second series of injections, in which, in 17 injections 3½ drms of TC. were employed was it possible to reduce the temperature to the normal, so that only very small fluctuations of 1—2 tenths of a degree over and under 37°C took place. Patient felt so much stronger that at the wish of his relatives he could undertake the journey home. The large cavities present on both sides were certainly not filled up, but in the other parts of the lungs the morbid process had very considerably receded. The absolute cure of such cases will always present great difficulty; yet it may be at any rate affirmed that in such a case, though previously characterised as beyond hope, considerable improvement and an arrest of the symptoms, even if only of a temporary nature, can be brought about.

Whether in cases of this kind absolute cure is possible must remain undecided; probably this will only be attainable when we are able firstly to permanently remove the fever and the progressive wasting, secondly to restore nutrition to the normal level and thirdly to effectively combat the accessible local symptoms. In the latter direction operative surgery especially of the lungs and larynx appears to me to offer great prospects.

During the TC. treatment no threatening laryngeal symptoms ever appeared as is known to be too often the case when Koch's crude tuberculin is employed. By our method, operative measures may be simultaneously carried out upon the pharynx without apprehension, unless the general condition of the patient is so bad as to forbid them.

Whilst I content myself with these incomplete observations on the nature and results of my treatment of tuberculosis, I will briefly in conclusion emphasise its relations to the ordinary methods. Since the disease, as pathological anatomy has shown, is capable of spontaneous cure, the results of a suitable dietetic and climatic treatment are not altogether unfavourable, in so far as it is possible to offer all those factors in the cure of the sick person which assist and further the desired issue. Most of these aids are however inaccessible to the great majority of human beings, save perhaps the accidental pathological complications by which a natural resolution of the tuberculous processes is brought about, as, for instance, cardiac valvular insufficiency. The fact would therefore remain true as ever for the majority of the less wealthy classes that in the ordinary course of things tuberculous infection means a shorter or longer burdensome existence, leading almost necessarily to a premature end. I regard it as one of the most important advantages of my method, that with a rational combination for all factors it may be made into a true remedy for the people, since it certainly is not impossible that the substance hitherto dear may be supplied at a very low price. It will be most difficult to combat the mistrust of many physicians, whose attention I direct to the results, here briefly communicated, both of the experiments on animals and of the treatment of human beings. The former show incontestably that an absolute cure of tuberculosis is possible without any considerable danger for the diseased body, and I believe that my own observations and those of my co-workers are proof that the same result is attainable in the treatment of human beings. It only remains to determine the limits within which by this way of the direct annihilation of the tubercle bacilli the disease which they produce can be cured. Where, as already remarked, the lungs are too greatly involved, where the general bodily strength is already too reduced and emaciation is present, and particularly where the effectiveness of the heart is profoundly and prejudicially affected, a cure is not to be expected from the annihilation of the first cause of the morbid process, even if this be possible in these cases. Perhaps somewhat more may be achieved by artificial nutrition, by operative measures, etc., but it is for the clinician to discover how far this is possible; I have restricted myself with my co-workers to bringing forward proofs that what is true for the animal kingdom has also significance for the tuberculous affections of human beings.

(*To be continued.*)

AN important diagnostic point between pyæmia and septicæmia, says Prof. Keen, is that in cases of pyæmia we will have regular chills occurring; but in cases of septicæmia we do not have any chills at all.

OPHIOLOGY
OR
A DESCRIPTION OF THE SNAKES OF INDIA.

(*Continued from page 106, Vol. III.*)

BY R. P. BANERJEE, B.A., G.B.M.S.L.
PACHBADRA, RAJPUTANA.

GENERA OF SNAKES.

SPECIES AND VARIETIES.

(e) A. Olivaceus, Beddome.—S 17; V 224; subc 75, Labials 5, color dark olive, yellow belly. 4 dorsal, black cross patches.

(f) A. Sagittarius, Cantor.—S 17; V 245; subc 70; Labials 7. Color red or grey olive, head brown, belly yellow, dark dorsal lines, belly with blue lateral lines and dots.

(g) A. Humberti, Jan.—S 17; V 175; subc 55, Labials 10. Reddish olive, black yellow edged vertebral dots, belly yellow and punctated.

(h) A. Collaris, Gray.—S 17; V 177; subc: 102, labials 10; color-grey brown, vertebral series of black dots, broad black collar, the posterior edge continuous with the ocular streaks, belly dotted.

34. *Cyclophis*, Gthr.—Neck slender, tail moderate, head distinct, nasal 1, scales 15, smooth; eyes moderate, anal divided.

(a) C. Frænatus, Gthr.—Head distinct, neck slender, snout broad and short. V 165; subc. 95; color olive or brown, 3 block dorsal stripes, and ziz-zag lateral lives, belly yellow.

(b) C. Rubriventor. Jerdon.—V 135, subc 38; nasal bifid postoc: 2; color brown, pale stripes from eyes to tail laterally, mottled brown below, and yellow band, throat yellow, belly reddish.

(c) C. Calamaria, Gthr.—Head indistinct, snout obtuse, V 138, subc 83; loreal united to single nasal, frontal wide and short, color light olive, reticulation by black edges of the scales forming 4 stripes longitudinally, belly white, size to one foot.

35. *Odontomus*. D. et B.—Body compressed and slender, head moderate, but distinct. V above 200, bent; scales 13 to 15, smooth; shields regular, bifid nasal, eyes moderate.

(a) O. Nympha, Daudin.—S 13, with groove; V 243, subc 87; labials 8; white color with brown crossings.

(b) O. Semifasciatus, Gthr.—S 13, with apical groove, V 232, subc 84, labials 7, color white with numerous dark cross markings.

(c) O. Gracilis, Gthr.—S 15; V 234; labials 4, anal entire, color white with cross bands, black and broad intervals, white or brown.

36. *Elachistodon*, Reinhardt.—Has gular teeth, often grouped as Dasypeltidæ of Africa. But this grouping is unnecessary.

(a) E. Westermanni, Reinhardt.—S 15, V 217, subc to 59, loreal long, nasal 2, loreal encroaching the orbit, labials 7, teeth few and small. Color yellowish brown, yellow vertebral stripe, yellow line from snout, crown to the angle of the month. sajjittal collar, yellow belly.

37. *Coronella* ? Gthr.—Scales 17, smooth; habits active, head shield regular, eyes large.

(a) *C. Orientalis*, Gthr.—S 17, V 163; subc 65; last maxillary tooth strong, color grey-brown, 2 dark dorsal stripes, posteriorly united. Collar white, belly white and black, spotted.

38. *Coluber*, Günther.—Body round, shield regular, scale smooth 19; anal bifid, > mark on the head.

(a) *C. Porphyraceus* ? Cantor.—S 19, V to 211; subc to 70. Color dark olive, 22 dark dorsal bands, and a dorsal stripe—mark on the head.

(b) *C. Semifasciatus*, Blyth.—S 19, V 187, labials 9, occipital very large. Color pale brown or olive, with cross bands fading posteriorly, ⊂ mark on the occipitals, undersurface white.

39. *Elaphis*. D. et B.—Body long, but compressed, head distinct, S 23-25, carinate, V 200 or more, anal bifid or divided, eyes moderate, pupil round, teeth equal.

(a) *E. Sauromates* ? Pallas.—S 25, V 200; color brown with broad black cross bands, and yellow intervals, head and ventrum yellow with black stripes.

40. *Compsosoma*, D. et B.—Head narrow, snout long, S 19-23 keeled; V 200, anal entire, nasals 2, preoculor 1.

(a) *C. Reticulare*. Cantor.—S 21, anal entire, labials 8; color brown, whitish cross hands, belly yellow with blotches.

(b) *C. Hodgsonii*, Gthr.—S 23, anal bifid; labials 8; color brown olive, black interstitially.

41. *Cynophis*, Gray.—Slender, head narrow, snout long, scales 25-27; with grooves. V 200; 2 nasals, 1 pre-oculor.

(a) *C. Helena*, Daudin.—S 27, color reddish olive, 30 black cross bands, each with 3 white ocelli, all fading back to brown stripes, 2 stripes nuchal, 2 post-ocular. Size over 3 feet.

(b) *C. Malabricus*, Jerdon.—Smaller than the preceding, ocelli more distinct, S 25, nuchal marks have black ⊂ mark.

42. *Ptyas*, Fitzinger.—Body long, head distinct, eyes large, prominent supercilliary ridges, shields regular, 2 preoc: encroaching crown; loreals 2-3, S 15-17; V 200 or more. Size often very large.

(a) *Ptyas Mucosus*, Linn.—S 17; V 208, subc 134, loreals 3, labials 8, black margined. Color, brown or olive with black or yellow interstitials, tips on the body, and reticulation on the tail, belly greenish or pale yellow, size considerable.

(b) *P. Karras*, Reinw ? S 15, V to 184; head narrow, eyes large, loreals 2, color brown. Size usually between 6 and 7 feet.

43. *Zamenis*, Wagl er.—Body long, head distinct, the temporals small, gulars ∞; preoc: 2, postoc: 2; suboc: present ? S 29, smooth, V 200 or more, last tooth large.

(a) *Z. Diadema*, Schlegel.—S 29, keeled, V 237, 4 small shields intercalcated between V and frontals, loreals 3; labials 14, suboc: 4, color pale olive, vertebral brown spots, and lateral stripes, brown fillets and marks on the head.

(b) *Z. Gracilis*, Gthr.—S 21, V 219, subc 120, anal bifid, labials 9; preocular confluent with 4 labials, color yellow olive, vertebral set of round black spots, belly yellow, dotted laterally.

(c) *Z. Fasciolatus*, Shaw.—S 21-23; with grooves; V to 229, subc 95; bifid, labials 8, color yellow or red brown, cross bars dark and white, belly pale yellow.

44. *Zaocys*, Cope ? Body long, compressed, head high, and distinct, eyes large, S 14-16; shields regular; supercilliaries large, preoc: 2; loreals often many.

(a) *Z. Nigromarginatus*, Blyth.—Scales 16; long and pointed, 4 median rows keeled, others grooved; V 193, subc 126. Color green above, pale below, posteriorly 2 broad black stripes.

45. *Tropidonotus*, Kuhl.—Body stout, head distinct, gape wide, eyes moderate, S 17-19; carinate more so near the tail, teeth ∞, and increasing from before backwards.

(a) *T. Quincunciatus*, Schlegel.—S 19; carinate; V 129-149; subc 135-145, 222, tail short in females, loreal broad and rhombic, labials 9; anterior frontals form a triangle. preoc 1, postoc: 3. Color olive with black blotches in rows, belly cream colored, sub and post ocular black streaks. Size grows over 4 feet, common.

(b) *T. Macrophthalmus*, Gthr.—S 19; V 168; subc 78; neck dilatable like the cobra, eyes large, color dark brown, with vertebral spots, indistinct > collar, belly with square spots.

(c) *T. Macrops*, Blyth.—S 17; V 164; subc 13; eyes very large, color-red, with yellow vertebral spots, and black laterals. Size very variable.

(d) *T. Platyceps* ? Blyth.—S 19; carinate slightly, V 186; subc to 96; color brown with dorsal stripes, red and black lateral and ventral stripes, dark or yellow streak posteriorly, last tooth enlarged to simulate fang, size very variable.

(e) *T. Subminiatus*, Reinw.—S 19; carinate, ventrals 142-168; subc: 61-88, color light brown or olive, bright red neck, black and yellow posteriorly, yellowish > collar, head green cheek, pink. green and black double streaks, post orbital, size variable.

(f) *T. Himalayanus*, Gthr.—S 19, carinate strongly, V 171 subc 85; color brown olive, series of dorsal yellow spots, collar yellow, last tooth simulating a fang, large and isolated.

(g) *T. Augusticeps*, Blyth ? S 17, V 172, subc 67, preoc: 2-4, postoc to 4-5; head small and narrow, color black with dark black spots, not commonly found.

(h) *T. Stolatus*, Linn.—S 19; strongly keeled, V 121-161, subc 50-79; babials 8; color brown, and variegated with red yellow, and pale blue spots and bands not unlike the belly, white with lateral dots, in alternale ventrals, black streak on the labials.

(i) *T. Monticola*, Jerdon.—S 19; V 142, subc 83; green, color, with numerous cross bands united by green dark dorsal stripes, interrupted by white stops here and there, belly pale yellow, post-orbital streaks, dark and marked, each with 2 white blotches.

(j) *T. Beddomii*, Gthr.—S 19, keeled; V 146; subc 70, labials 9; color brown, red dorsal cross marks, nuchal streaks yellow, post-orbital streaks yellow, black bordered.

(k) *T. Plumbicolor*, Cantor.—S 25, (23-24), keeled; V 150-162; loreal encroaching the orbit; lower preorbital encroaches the labial, color bright green, > yellow collar, usually margined black, and black with white cross bars, in a duls these are not often distinct, belly white, size about 2 feet.

46. *Atretium*, Cope.—Similar to preceding genus. (Tropidonatus,) with the anterior frontals fused with the rostral forming a large triangular shield. S 19, rhombic and strongly keeled, ventrals broad, anal divided teeth OO, and increasing in size and number from before backwords.

(*a*) *A. Schistosum*, Daudin.—V 146 to 160; subc 67-84; color dark slate, and crimson interstitials, belly yellow, with thin long post-orbital streaks. In spite of Mr. Nicholson's denying the fact quoted from Cope by Dr. Gnther, I am in possession of this which was named by the Bhills of this part (Marwar), as Padamnâg, and said to be the cobra really mistaken for it, by the dilated neck, like the hood of the true cobra. The snake is not very active, and raises its head about 5 inches off the ground and not vertically as the cobra does, and however, it can be mistaken for the cobra, had not its coloring recommend itself, but commonly it is believed to be a cobra, by the ignorant people, who know very little about snakes. I have had ten specimens of this snake. It likes marshy soil very much.

47. *Xenochrophis*, Gthr.—Similar to Tropiodonaters with the middle teeth longer, nostrils superior, nasal one, scales 19, anul divided, scales all keeled.

(*a*) *X. Cerasogaster*, Cantor.—V 141-149; subc 60-69, shields longer, labials 9; color brown, with dorsal series of dark stripes, belly purple, and marbled with yellow-spots.

48. *Gonyosoma*, Wagler.—Body long, loreals sometimes absent, pre-ocular 1; scales 19-25, smooth, V above 200.

(*a*) *G. Onycephalum*, Boie.—S 25, elongate and grooved, V 263, subc 148; labials 11; color green, dark lines along the lips, tail brown or ochre yellow, yellow color, belly pale yellow, size very variable, 5 to 7 feet.

(*b*) *G. Gramineum*, Gthr.—S 19, groved, V 203, subc 100, labials 9, color green, tail red, length to 14 inches.

(*c*) *G. Frænatum*, Gray.—S 19, vertebral and dorsal keeled, V 203-208; subc 120, color green, belly yellowish, and black lip stripes present.

49. *Dendrophis*, Boie.—Body long, slender, and compressed laterally, eye large, head shield regular, S 13-15; smooth imbricate, vertebral polygonal. Ventrals nearly square.

(*a*) *D. Pictus*, Gmelin.—S 15; V 160-188, subc 87-156, eyes moderate, color blue with yellow lateral stripes, ventrals yellow with blotches, or bronze with yellow belly and brown lateral stripes. It is this bronze colored one that I have had five specimeus of. Very common down here (Pachbadra).

50. *Chrysopelea*, Boie.—Body long, tail slender, head long, snout short and rounded S 15-17; smooth; V keeled and with a notch.

(*a*) *C. Ornata*; Shaw.—S 17; V 180-239, subc: 147, color black, crossed by several ≺ yellow marks, and E yellow band in the head between the 2 orbits. Size over four feet. Nicholson gives 4 feet, I had 2 with 4'-6" long.

51. *Tropidococcysx*. Gthr.—Snout tapering, loreals absent, frontals encroaching upon the rostral and nasals, and concave. S 15, smooth, ventrals 142 or more.

(*a*) *T. Percoteti*, D. et B.—S 15, V 140 to 143, smooth the vertebrals keeled, color sap green with lateral stripes, belly yellowish.

52. *Tragops*, Wagler.—Snout long, loreal present cheek region concave, S 15, and smooth or slightly keeled.

(*a*) *T. Prasinus*, Reinw.—S 15, V 234; color green with white lateral stripes, sometimes color light ochre, with deep ochre stripes and tail yellow.

(*b*) *T. Dispar*, Gthr.—V 151, S 15, subc 100-104, color males green, females bronze or brown color, with yellow lateral stripes.

53 *Passerita*, Gray.—Snout long, with flexible apzendage loreals absent, concave preocular region, scales 15.

(*a*) *P. Mycterisans*, Linn.—S 15, V 122-188, subc: 166, color grass green with yellow lateral stripes, with black and white cross bands, size variable to six feet.

54. *Dipsas*, Cuvier.—

(*a*) *D. Forsteni*, D. et B.—S 25-27 ? V 260-275, anterior palatine and maxillary enlarged, color brown, with black blotches and cross bands, or red olive with ocelli, median and lateral black stripes. Very common here.

(*b*) *D. Boops*, Gthr.—S 21, V 265, subc: 160, eyes large, color red olive, mottled with black and brown spots, or bands, belly purple.

(*c*) *D. Bubalina*, Klein ? S 21, V 249-252; color green or olive, with black blotches.

(*d*) *D. Trigonata*, Schneider.—S 21, V 269, subc: 102, preocular encroaching the vertical. Color yellowish or greyish olive, with sagittal cross bars. Head mottled and with ≻ marks, and post-orbital streaks, belly white, very common. I had three specimens of this snake, from Sharigh, British Beluchistan. Size over 4 feet.

(*e*) *D. Gokool*, Gray.—S 21, V large 211-231, subc 85; yellow or grey brown, with brown vertebral dots, double ≻≻ mark in the head, size to 3 feet.

55. *Psammophis*, Boie.—Body elongate, snout pointed vertical narrow and long, loreals present pupil round eyes very large, S 15-19; smooth, anal bifid.

(*a*) *P. Condanarus*, Merrem.—S 17, lanceolate, grooved, V 80 to 90, nasals 2, color brown, lateral mottled black stripes, belly yellow with thin black lateral stripes, double nasal streaks down to the neck.

56. *Psammodynastes*, Gthr.—Body stout, tail stout, snout short, nasal single, pupil erect, scales 17, short, rhombic, smooth, anal entire.

(*a*) *P. Pulverulentus*, Boie.—S 17; V 146-167; subc 50-59; Head long, crown flat, snout obtuse, 2nd and 3rd tooth long, and enveloped in a large mucous fold, simulating a fang, color dark brown, or mottled with vertebral stripes, belly yellow, with 2 lateral brown lines, throat white, ≺ mark on the head sometimes attain to size of one and half feet.

57. Poisonous.—Naga, Laurentius. Anterior ribs long and erectile; head short, rounded; one rudimentary tooth behind the fang, ventral 200 or more, anal entire, scales 21-23.

(*a*) *N. Tripudians*, Merrem.—S 21-23; more so on the neck, neck, dilatable pre-ocular and anterior frontals are fan

shaped, the fang is fixed and stand at right angles and not recurved; anterior third of the body can be raised from the ground, color very variable. In Bengal cobra having almost any color has been seen, varying from dark olive to ash grey or black color, scales are oval, like linseed, not keeled or imbricate. Grey variety is common in the hills.

(*b*) *Naga tripudians binocellata.*—S 23, V 184-197 subc 69, neck is marked with a white U shaped ocelli, better seen when the neck is expanded. Color is olive or dark brown, with dark cross bands, belly ash-grey or mottled with black spots. Size very variable, between 5 and 7 feet, very aggressive.

(*c*) *Naga tripudians*, Monocellata, Gthr.—S 21, V 185 to 191; subc 59; tail short, color variable between dark brown and black, has one white ocellus with black centre and margin, size between 4 and 5 feet.

58. *Ophiophagus*, Günther.—Neck dilatable but less so than cobra; surrounding the occiptals are posteriorly three pairs of large shields the temporals and others. Scales large 15, and smooth ventral above 200. Size often very large.

(*a*) *O. Elaps*, Schelegel.—S 15, 19 on the hood; V 215-262, subc 80—100, a few last ventrals double, about 1st ten caudals are entire, the rest bifid, color varies from brown olive to get black. The young snake often has 3 yellow bands on the head, the interocular, the occipital and the frontal, size very considerable, to 12 feet or more.

59. *Bungarus*, Daudin.—Tail short, head small, and distinct, neck not dilatable, syes small, pupil round. S 15, smooth vertebrals large and six-sided. V above 200, anal and subc entire, poison fang supplemented by one or more teeth behind it.

(*a*) *B. Cæruleus*, Schneider.—B. Arcuatus of Nicholson, S 15, V 201-221; subc 56; color jet black, white below, white bands cross over to back from sides, incomplete collar round the neck, other cross bands are either single or in pairs, size 4 to 5 feet.

(*b*) *B. Fasciatus*, Schneider.—S 15; V 200-233; subc 37; Tail very short, rather stumpy; tip swollen. Section of the body trangular vertebræ being the apex of the triangle, vertebral spine prominent, color black with dark yellow cross bands. Head black with > yellow mark, altogether 90 yellow bands head to tail. Size to six feet. Yellow color less marked occasionally.

(*c*) *B. Ceylonicus*, Gthr.—Similar to Cæruleus, but with black rings, and narrow white intervals, usually smaller in size.

(*d*) *B. Semifasciatus*, Kuhl.—Like the B. Cæruleus, but the tail has not the yellow cross band.

60. *Xenurelaps*, Gthr.—Very similar to Bungarus but with double subcaudals.

(*a*) *X. Bungaroides*, Cantor.—S 15, V 224-257; subc 44-46 double; color black with white bands across and directed towards the head, white bands on the head, belly white or red with irregular cross bands or spots.

61. *Megærophis*, Gray.—Similar to Bungarus, scales 13, vertebrals large and six-sided, anal and sub-caudals entire.

(*a*) *M. Flaviceps*, Reinhardt.—S 13, V 206-226, subc to 52 entire; color black with vertebral line and wavy lateral stripes white anteriorly and reddish posteriorly, head and neck red, belly red or black.

62. *Callophis*, Gray.—Body long and slender, head short and obtuse, not distinct, tail short, S 13, vertebrals not large, anal and sub-caudals divided.

(*a*) *C. Bivirgatus*, Boie.—S 13, V 248-284, subc 38-50. (I have seen a specimen with 58 sub-caudals). Head, belly and tail red, body jet black, white bluish edged lateral curved or crooked stripes, size over 4 feet.

(*b*) *C. Intestinalis*, Laur.—S 13, V 271; subc to 27; red with black margined stripe along the spine, and buff lateral stripes color black, belly alternately pale yellow and black.

(*c*) *C. Pentalineatus*, Beddome.—Similar to above, head with red markings, belly red, body red with 5 black stripes down to the end of the tail, very thin size grows over three feet.

(*d*) *C. Macclelundii*, Reinh.—V 196-224; subc 25-34; head black with yellow marks, body reddish brown surrounded with black rings, and below these are often doubled.

(*e*) *C. Annularis*, Gthr? V 208-284; subc 27-33, head black with yellow fillet, the belly bands are doubled by alternate cross bars. Rare.

(*f*) *C. Trimaculatus*, Daudin.—V 245-274; subc 30-35. Head and neck black with yellow spots, belly red, anterior and posterior caudal rings connected below by series of black spots.

(*g*) *C. Nigrescens*, Gthr.—V 232-247; subc 35-45, anal entire, head mottled black, belly red, body black, black ⊂ collar, and a dorsal black stripe.

Note.—The Hydrophidæ have been omitted here, and only a short description will be given elsewhere, only to complete the work, but by no means a comprehensive discription as this class of snakes are not sufficiently studied and ununanimously attempted a fair classification. It is again not necessary, for ordinary men to know much about these water snakes.

63. *Trimesurus*, Gray. or *Trimeresurus*, of Günther.—Head shielded in the rostral and supercilliary regions, body and head covered with keeled scales 17 to 27. Anal entire, subc. double, eyes moderate, pupil erect, a deep pit on the side of the snout.

(*a*) *T. Gramineus*, Shaw.—S 19-21; V 158-170; subc 58-71, pit on the 2nd labial, small supra-nasals separated by azygos scale, color green yellow, lateral stripes, pale yellow below.

(*b*) *T. Erythrurus*, Cantor.—S 21; V 150-164; subc 54-70; supra-nasals contiguous, tail red, lips white.

(*c*) *T. Carinatus*, Gray.—S 23-25, V 161-167; subc 45-68. Head scales small and keeled supra-nasals not encroaching, no white stripes, size to 3 feet. Commonly mistaken for young echis by the people.

(*d*) *T. Anamallensis*, Gthr.—Scales 21 or more, keeled; V 148-158, subc 49-55; supra-nasal separate. Color pale green or yellowish green, black vertebral series of spots, with yellow borders. Head marked with black and post-orbital streaks.

(*e*) *T. Monticola*, Gthr.—S 23, keeled; V 137-141; subc 41; color dark ash or brown, dorsal black spots, sides black spotted, ≺ color yellow, and post-orbital streak, belly mottled brown.

(*f*) *T. Strigatus*, Gray.—S 21 carinate, V 136-142; 2nd labial does not enter into the formation of the 'pit' supranasals

absent, color brown mottled with dark spots, white ⊃ color. This was named by some Trigonocephalus Nilgiriensis.

(*g*) *T. Mucro-Squamatus*, Cantor.—V 219, subc to 91; color brownish grey, with black ring like spots.

64. *Peltopelor*, Gthr.—Head covered with large shield like scales, much imbricate scales12, large and carinate.

(*a*) *P. Macrolepis*, Beddome.—V 134-138; subc 53-56, scales of the head similating shields, there being a vertical and a pair of frontols, color green, pale below with lateral streaks.

65. *Halys*, Gray.—Head shielded S 21-27; tail ends in a long spine.

(*a*) *H. Himalayanus*, Gthr.—S 23; V 162-166; subc 43-51; temporals separated from the occipital by scales; 3 labials confluent sometimes an odd shield behind the vertical, color dark brown with flat spots, and black post-orbital streaks, belly black mottled yellow.

(*b*) *H. Elliotii*, Jerdon.—S 23; V 151-153; color green, belly white and mottled, common in the rocky soil.

66. *Hypnale*, Fitzinger.—Snout with several small shields, head shields normal, triangular and scale like. S 17; carinate; tail terminating in a small conical scale.

(*a*) *H. Repa*, Laur.—V 140-152; subc 31-45; color brown, grey or olive, with dorsal dark sagittal spots, sides and belly mottled with post-orbital streaks, morgin light colored.

67. *Daboia*, Gray.—Nostrils large, between 3 shields head scaled, S 29-21, pit absent, scales much imbricate and strongly carinate, fang recurved often very large.

(*a*) *D. Elegans* (*Russellü*), Gray.—S 29, V 193-170; subc 45-60; color grey, with 3 series of large ring like black spots with white edges. The vertehral series irregular > mark in the head, young specimen have a velvety lustre, belly is spotted with brown. Size to 5 feet, color sometimes dark brown or yellow, tail one-sixth of the body. Common in Punjab and about Suleman range, and in British Baluchistan.

68. *Echis*, Merrem.—Head scaled, and a pair of small frontals, nostrils small in a single scale, scales 25-29, strongly keeled, and imbricate, keel consists of dots, sub-caudal, single.

(*a*) *E. Carinata*, Schneider.—V 149-154; subc 21-25, color grey or light brown, with vertebral white, brown edged spots, below each a semicircular mark with a brown spot, sometimes curved arches on the sides sometimes with a dot in each concavity. Broad brown > mark on the head, belly spott-ed. white Size 1 to 1½ feet, tail small and nearly one-twelfth.

(*To be continued.*)

A Mirror of Practice.

A CASE OF PUERPERAL ECLAMPSIA.

BY NARESH CHANDRA MITRA M.A.M.B.
RANCHI CHARITABLE DISPENSARY.

A Hindu female, *æt* 22, a primipara, was confined on the 15th February. The labour was an easy and natural one. On 21st, the 6th day, she had an attack of fever with a temperature of 104°F. Next day, she had a purgative of *sulphate of potash* and *rhubarb* which moved the bowels 4 times quite freely. On the 23rd she was pretty well, quite free from fever, and had 5 grains of *quinine*.

25th Feb. 1893.—This morning she had fever and felt very uneasy. I was called to see her for the first time. I found her somewhat restless complaining of great heat, but no headache or pain over the abdomen. I enquired as to the character and quantity of the *discharge*, and was informed that it was of the color, smell, and quantity usually present about the *period*. As the fever set in on the 6th day after confinement, I was quite sure on the point of the fever not being a *puerperal* one. I prescribed a diaphoretic mixture with a few grains of *bromide of potassium* to act as a sedative, inasmuch as she had not had any sleep for the last two days. The temperature was 102°F. Much in the same state in the evening.

25th Feb. 1893.—Temperature 100°F. Had sleep, off and on last night, had a scanty motion. Towards the latter part of the day she was better, the temperature being normal. During the night she was very restless, throwing off the bed clothes. The temperature was higher than last evening.

26th Feb. 1893.—Temp. 100°F. Perfectly conscious, but there were strong spasms of the muscles of the hands and feet, so that the fingers were clenched, and they could with difficulty be made straight. She had one small stool, and passed scanty urine in her bed-clothes. The spine was once seen bending forward from spasms. There was no lock-jaw. Discharge was of a slight greenish color and of sickening odour. The vagina and uterus were thoroughly washed out by a vaginal syringe. She was given a mixture containing *pot bromide* and some antispasmodics, and the extremities were rubbed with turpentine; in an hour the tonic spasms of the extremities passed away, and the fingers and toes were as pliant as ever. At 12 noon she had a regular convulsive fit with twitching of the muscles of the face, followed by temporary insensibility. The eyes were kept closed. Prescribed 5 grains of *calomel* to be followed by an enema of *turpentine*, *soap* and *water*. The enema brought away nothing. Internally, a mixture of *pot bromide* with *chloral hydras*, and *tinct hyoscyamus* was given every 2 hours. For diet, chicken broth and milk every two hours alternately. She passed no motion, but had snatches of sleep after three doses. In the evening she was perfectly conscious and answered questions put to her. Another dose of 5 grains of *calomel* was ordered at bed time. She had one small motion, and passed urine in her bed-clothes. She slept soundly for some hours; but towards morning she was found to be very drowsy, and aroused with difficulty, not answering questions.

27th Feb. 1893.—Drowsiness very marked. Pulse small and soft. Temperature 100°F. Pupils slightly dilated. No intelligent answers to calls. No spasms. At times snoring loudly, otherwise lying down quietly with closed eyes. Swal-

lows medicine and food when given to her. Sensibility very dull. A consultation was then held. The consultant was of opinion that the convulsions might be of *uræmic* origin, and asked me to examine the urine for *albumen*, and as it was her first confinement, there may be no *albumen* in her urine. As the urine was passed unconsciously, it was very difficult to collect it, and so it could not be examined. A mixture containing *spirits ammonia aromat, spts ether nitric*, and *spt. ether chloric*, was prescribed for her, to be administered every three hours, and a purgative powder of 5grains of *calomel* and 10 grains of *sulphate of potash* to be followed by a *soap* and *water* enema. She passed one free stool, rather loose. Passed urine 3 or 4 times. In the evening she was more intelligent, talked to her husband, and in other respects some improvements were noticed. After 7 P.M. she again fell into a drowsy state snoring loudly. When pressed to swallow medicine or food she did so, at other times she was lying in an apathetic state with closed eyes. She was not restless, but now and then groaning indicative of internal distress, and pressing the forehead and the temples, most probably on account of headache. Temp. 100°F. The extremities were becoming cold, but the character of the pulse in no way showed any signs of failure of the heart. Hot bottles were applied to the sides of the body, and *ginger friction* commenced over the extremities. The coldness of the extremities was not the precursor of on-coming collapse, but only premonitory of an exacerbation of the fever, for later in the night she had an accession of fever indicated by a slight rise of the temperature.

28th Feb. 1893.—In the morning she was found in the same state of drowsiness as before, but consciousness was becoming more dull, for she would not open her eyes even after repeated calls. Would not put out her tongue, did not ask for any nourishment, but she was regularly made to take it. Extremities cold, like previous evening. Drs. B. S. and S., saw the patient with me this morning. One of the consultants was of opinion that the symptoms were due to the absorption of septic materials from fæcal accumulation, and advised warm water enema once every evening, and as the character of the pulse did not indicate any special weakness of the heart, over-stimulation was unnecessary, simply *carbonate of ammonia* with *tinct digitalis* was prescribed to be administered every four hours, *brandy* to be given along with the medicine if there be any indication for it. The pupils were normal and reacted to light. She passed water twice in her bed-clothes, no worse symptoms supervened to cause further anxiety till the evening when it was brought to my notice that she could not open her jaws to their usual extent. I tried to open them with my fingers, but beyond the extent possible for introduction of the fingers, no force could open them any further. There seemed to be a tonic contraction of the muscles of the jaws. And along with this rigidity of the muscles, the patient experienced great difficulty in swallowing any thing owing to contraction of the muscles of the throat. This contraction was of a spasmodic nature, for at times she would swallow any thing quite easily, while at others any attempt at swallowing caused such fits of cough as well nigh exhausted the patient. There was some stiffness still left in the right limb. The jaws were not fixed absolutely, but they could be opened with the slightest exertion, to a certain extent, merely by a slight touch of the fingers and further than that nothing could open them. This showed that there was a tonic contraction of the muscles of the jaws, but they were not absolutely fixed. Though she was conscious, nothing would induce her in the least to open her mouth. The eyes were constantly kept closed. The pulse was gradually becoming softer and dimishing in fulness. Towards night, it became perfectly impossible to feed her by the mouth as the spasmodic contraction of the throat rendered it quite impossible for any thing to pass down, moreover, entrance of any food into the throat caused violent fits of cough. Enemata of *sulphuric* ether, *brandy*, and *soup* were given and retained. Respiration was becoming sterterous and coma setting in. She expired at 10 P. M.

Remarks.—The case was a peculiar one of its kind. The early spasms of the extremities were no doubt premonitory of a regular convulsive fit of the whole system. The convulsions coming on within so short a period of confinement left no doubt of their being classed as *puerperal*. And the *diagnosis* was one of *puerperal eclampsia*. With myself, one of the consultants concurred. But, whether the origin of the disease lay in the kidneys or the uterus, could not be arrived at by any means, for all attempts to secure the urine was useless, and moreover, the discharged urine was quite free and was passed many times during the day and night, the syringing out of the uterus helped in the diagnosis, and was free from any decomposing clots or putrid discharges. The abdomen was nowhere tender to the touch, the patient never having complained of any tenderness on pressure or pain, throughout the whole course of the disease. The opinion expressed by one of the consultants that the symptoms were due to absorption of *ptomaines* or morbid materials from fæcal accumulation seems, to appear to me, to be quite untenable. This view is shared among others, as originating Indian Fevers, notably by Dr. Ronald Ross of Bangalore. In a series of articles in the *Indian Medical Gazette*, he has put forth a theory that most of the Indian Fevers may have their origin in the intestinal canal rather than in the blood. In all the cases related by Dr. Ross, abdominal tenderness on deep pressure was a marked characteristic. And, this tenderness accompanied by fever, and relieved by mild purgatives and attention to diet was the mainstay of his theory. Now, so far as the present case illustrates, leaving aside the free purgation which the patient had almost every day, even deep pressure could elicit no tenderness over any of the regions of the abdomen. And moreover, the peculiar tonic spasm of the extremities followed by a regular convulsive fit in a puerperium, leads one to no other diagnosis but that of *puerperal eclampsia* ; but whether that was due to the absorption of poisonous materials from fæcal accumulation by the intestinal canal, opens up a new

theory of the *etiology* of the disease which demands further corroborative evidence, before it can be accepted as such. The convulsions, coma, and death, simulated so far a case of uræmic poisoning, but no opinion on this point can he hazarded, for no thorough or even cursory examination of the *urine* was made. There is one more point for diagnosis. What was the tonic spasm of the muscles of the jaws? Was it more of the nature of tetanus, or simply the indication of the approaching end. In tetanus as contended by some, the opening of the jaws even to the smallest extent is accomplished by strong exertions on the part of the patient, whereas in this case, the jaws could be opened by any one without the least effort to a certain extent, but beyond that, nothing could effect more, so that the tetanic symptoms of the last day's illness were not due to supervention of a new disease, but the gradual rigidity of the muscles, or it may be a mild fit of convulsion.

A CASE OF PNEUMONIA WITH HIGH TEMPERATURE, COMPLICATED WITH A LARGE COLLECTION OF INTESTINAL WORMS.

By J. C. Day, M.B.,
Assam.

Heera, a Hindoo boy, about 5 years of age, came under my treatment on the 24th March, for Pneumonia. His parents stated that he had been suffering from fever and pains in the chest, and attributed the boy's present condition to his having been playing about in the rain, and afterwards lying down to sleep in his wet clothes. He had been unwell for four days, and when I saw him (10 A. M.) presented the following symptoms. His face wore an anxious expression, and his features were slightly pinched and drawn. His skin was hot and dry, temperature 104·2F, respiration hurried, pulse full and bounding. Bowels constipated. Loss of appetite, tongue furred, thirst extreme. On auscultation dry crepitation was distinct, and there was slight dulness toward base of right lung. He had a short cough, the sputa was slightly tinged with blood and was tenacious and jelly-like. I prescribed a dose of castor oil, to be administered at once, and chloride of calcium grs 1½ every 3rd hour. At midday the temperature was still 104·2, and in the evening 103.

25th. Morning temperature 101·2. Respiration hurried, pulse rapid, but not so full. Bowels have been moved several times. Mid-day temp. 103·4; evening 104°. Chloride of calcium continued with diaphoretic mixture.

26th. General condition unchanged, morning temperature 103, mid-day 103·2., evening 104·4.

Treatment the same.

27th. Was slightly delirious during the night. Sputa yellow and viscid, cough very troublesome, skin hot, but moist. Takes his nourishment readily and cheerfully. Omitted chloride of calcium, as it does not seem to check the inflammation or reduce the temperature. Prescribed the following mixture, to be given every three hours—antipyrine grs. 1½, spts. ammon aromat m ii, liq. ammon acet m xx, vini ipecac m v, pot. bromide grs. i, aqua camph ad 3 ii, ft mist. Morning temp. 103, mid-day 104, evening 100·2.

28th. Morning temperature 104, mid-day 103·2, evening 104. Respiration 45, pulse 100, cough troublesome, and skin dry. Is growing very weak, but still takes his nourishment well. Treatment continued.

29th. Perspiring profusely. Breathing much easier and less hurried. Cough not so troublesome, and the patient has a brighter appearance. Morning temperature 102, mid-day 99, evening 102.

30th. Morning temperature 104, mid-day 102. evening 102. The patient is constantly picking his nose and complains of pain in the abdomen. His stomach is irritable and he has a constant inclination to vomit. I suspected the presence of worms in his intestines, and prescribed a dose of santonine, to be followed by a dose of castor oil.

31st. Morning temp. 103, mid-day 100·4, evening 100. A large mass of tape worms were expelled from the intestines, in pieces, and I therefore did not measure it, but by weight it must have been about 2lbs. The patient is perspiring profusely, cough is less troublesome and the sputa clearer. Respiration easier, 32, pulse 98, tongue cleaner and moist.

1st. Morning temp. 99, mid-day 100, evening 99·2. There is great improvement in the appearance of the patient, the dullness of right lung less. On auscultation there was still loose crepitation audible. The pulse is more even, 90. Respiration 30, and deeper. Tongue moist and clean. Skin covered with moisture. Takes his nourishment well. From this day the patient made an uninterrupted recovery, the fever entirely disappeared and all troublesome symptoms gradually subsided. The further treatment being an expectorant mixture and tonics.

Remarks.—I consider this case worth recording on account of the peculiar complication which was present, and from the fact of my having given a trial in the case to the recently advocated treatment *i e., chloride of calcium.* When improvement had set in in the lung affection, I naturally looked for a fall in the temperature. But as no fall came, I could but look elsewhere for the cause which was prolonging the fever. From symptoms which were present, my attention was drawn to the bowels, and the fact of the patient having worms. And although this might be looked upon as a coincidence, yet, the almost inmediate fall in the temperature after the expulsion of the large mass of worms, (as recorded in the notes of the case on 31st March), proves to my mind beyond doubt, that the irritation set up by the worms was the cause of the prolongation of the abnormally high temperature after improvement in the lung affection had set in. It will also be seen from the history of the case, that in this case, chloride of calcium was of no effect. I intend however trying the remedy in my next case, and will again report my experience.

A CASE OF PERNICIOUS ANÆMIA.

By A. P. DASS, L.M.S.
LATE HOUSE-PHYSICIAN, CHANDNEY HOSPITAL.

Booban, a girl of 10 years, was placed under my care on the 20th of December 1892, for unaccountable weakness and fever.

Her father gave me the following history,—From the month of October she complained of headache, lassitude, and weakness; and that latterly she became very pale, for which she was put under the treatment of a *Kabiraj*, for about a month. The family was respectable, and as far as could be gathered from enquiry, lived under good hygienic coditions. The parents were healthy, and so were her two brothers. She was never subject to malaria, diarrhœa, or dysentery.

I first saw her on the evening of 20th December, she was lying in bed and replied to questions in a very clear, though languid manner; she felt miserable and much distressed from fever and occasional inclination to vomit, which had come on with the fever (*i.e.*) within the last 4 days. The skin was pale and white, but tinged with a slight lemon-yellow color, the mucous membrane was white and anæmic. Respirations deep and full, 40 per minute; *alæ nasi* in action. No physical sign indicating lung disease. Pulse 132, thin, soft, and regular; visible arterial pulsation, especially at the carotids.

A distinct systolic murmur was audible at the base of the heart. Urine high colored and plentiful, abundant deposit of uric acid crystals. Tongue white like paper and flabby. No pain or tenderness in the epigastric region. Bowels natural.

No enlargement of liver or spleen. No epistaxis or hæmatemesis, but to-day for the first time, lost about one ounce of blood from the mucous membrane of the mouth and gums.

Temparature 102. No œdema of face or legs.

I prescribed alum and catechu with hot water as a gargle, and hazeline to be applied locally after the mouth is rinsed out.

Internally, Brand's essence of chicken and plenty of milk, and liq. am. acet. ʒi, spt. ammon. arom ♏ xii, tinct digitalis ♏ iii, every 2 hours for the night.

On the 21st morning I saw her, the temperature was normal. Had one stool. No more hæmorrhage. Did not move herself, and does not like to be moved. Feels giddy, and complains of dimness of vision, probably from retinal hæmorrhage; but the patient was so poorly that an opthalmoscopic examination could not be managed. All other symptoms the same. I prescribed tinct: ferri ♏ x, quinine sulph gr. ½, tincture nux. vomica ♏ vi, inf. calumba ʒ ss, every three hours, and Brand's essence of chicken and plenty of milk.

On the 22nd she remained the same, and the same mixture was continued, but on the evening of 22nd, the fever returned, temperature 102, is very poorly. I stopped the ferri mixture and orderd a stimulant mixture consisting of spt. am. aromat ♏ xv, spt. ether. chlor ♏ xv, tinct digitalis ♏ iii, every 2 hours, brandy ½ dr. with two teaspoonfuls Brand's essence of chicken every 2 hours, and plenty of milk at intervals.

23rd.—Morning pulse weak and feeble. Respiration hurried. Temperature subnormal. All other symptoms the same. Orderd the same mixture to be continued and to be fed regularly with Brandy one drachm and Brand's essence of chicken one dessert-spoonful with a little water, and plenty of milk. At 10 A.M. she died from syncope, retaining consciousness up to the end. No *post mortem* was allowed, and no microscopic examination of the blood was made.

Remarks.—The case is of interest on account of the age of the patient (10 years). The entire absence of any discoverable cause, and from the fact that the patient was seriously unwell not being considered until a week before her death. The high color of urine, and large amount of uric acid; the retention of consciousness to the very last, and the fatal termination from syncope due to anæmia.

CASES FROM THE CIVIL HOSPITAL, DELHI.

By ASSISTANT-SURGEON MUL CHAND,
IN CHARGE, CIVIL HOSPITAL.

Case No. I.—Soola, Hindoo male, aged 25, admitted on 25th January 1892, for compound comminuted fracture of the right elbow joint, with the following symptoms.

Patient weak, skin hot, tempr. 103F, forearm much swollen and inflamed with a lacerated wound of 4" by 4" on the back of the elbow joint which was completely shattered, the olecranon process of ulna, and trochlear end of humerus being quite separated, and forearm connected with the arm by the skin and soft parts only on the anterior surface. This was the result of the firing of a gun in a marriage procession.

Treatment.—The arm was amputated at the middle, by the ordinary circular method under chloroform and dressed antiseptically. Quinine and opium administered. The temperature went down to 99° in the evening and the patient progressed favorably under tonics and good food. When the stump had almost all healed, all of a sudden, signs and symptoms of acute periostitis of the arm bone higher up, made its appearance, and on making a deep incision down to the bone and removing a large quantity of pent-up matter under periosteum; the complication abated and the patient soon made a rapid recovery, and took his discharge, quite cured on the 23rd of March 1892.

Case No. II.—Musummat Najibun, Mahomedan female, aged 50, admitted into Hospital on 19-3-92, for occlusion of cervix uteri.

Symptoms.—A large swelling like a gravid uterus above the pubis. Vagina much contracted with bands of cicatricial tissue, os descended as low down as the vulva. The patient attributed this to the application of caustic medicines after ulceration, and maggots having set in in her private parts.

Treatment.—Vagina incised, all obstructions carefully dissected out and removed. Os punctured and a large quantity of dark brown grumous fluid ran out. Uterus completely drained and the cavity syringed out with antiseptic lotions, and the vagina and os plugged with carbolic oil and lint. The patient was discharged cured on the 4th day after the operation.

The grumous fluid in uterus was the collection of 8 months, during which time there had been complete occlusion of the os, and consequently no menstruation.

(*To be continued.*)

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The Medical Reporter.
CALCUTTA: MAY 1st, 1893.

Professor M. Haffkine of the Pasteur Institute of Paris arrived in Calcutta in the early part of March, and made experiments and prepared the various forms of virus which he claims are agents protecting against cholera, when injected by certain methods into the human system, based on the principles of Professor Koch of Paris as applied to anthrax and rabies. Dr. Simpson of this city very graciously placed his laboratory at the disposal of Professor Haffkine for the conducting of these experiments, and we learn from interviews we have had with the Professor, that these experiments were highly satisfactory. It was thought that owing to the extreme heat of the weather these preparations would have failed, but we are glad to hear they turned out a perfect success. Professor Haffkine we learn, has for some years been working out this process with Professor Roux, and the method has developed so much that a *virus fixe* can be obtained, which is capable of protecting susceptible animals against large doses of definitive cholera poison. These experiments have also been carried out in the case of human beings, and we are informed that there is not the least danger in the process. To further carry out his experiments on the human subject, Professor Haffkine has come out to this country, and we learn that his experience of the three or four weeks he spent in Calcutta nearly drove him to despair. He received little encouragement from the public or the Government. He brought a letter from Sir William Mackinnon, the Director-General of the Army Medical Department, to the Principal Medical Officer with the Forces in India, recommending that every facility should be given to M. Haffkine, for introducing his system of vaccination to the notice of medical officers of the Army. M. Haffkine was thereupon asked to write a letter on his treatment and this was to be circulated; but no steps seem to have been taken to bring M. Haffkine and the Army Doctors together for the purpose of systematically pushing the matter. A notion even seems to have got abroad, that it would be improper to inoculate soldiers without first obtaining consent from Head Quarters. The jails also were practically closed to M. Haffkine on the ground that it would never do to wound the prejudices of the prisoners. We may mention incidentally that it reflects little credit on the governing authorities as a body in India that they should show themselves so indifferent to M. Haffkine's experiments, and that, as was recently pointed out, it should be left to a Russian *savant* sent out by a French Institute at their own expense, to investigate the origin and cure of a disease, which is the scourge of India and the East generally. M. Haffkine is studying the subject in India at his own cost and that of the Pasteur Institute, and as an English writer justly observes that, "it is humiliating that our Government has been profuse only in its letters of introduction and recommendation, leaving it to a foreign country to supply the research, the knowledge, the man, and the money." We wonder what the writer would say if he heard of the perfect indifference shown to these letters by some of the medical authorities here, and of their abstaining from making any offer of help whatever, or giving, when asked, any assistance to M. Haffkine?

From Calcutta, M. Haffkine went to Agra in the early part of April, and has been more successful there in finding subjects willing to submit to inoculation. The number of people being inoculated are from 40 to 50 daily at Mr. Hankin's residence, including Military and Civil Officers, and a few European ladies.

Shortly after his arrival in Calcutta the Professor gave a very interesting lecture in the Medical College theatre, a brief account of which we placed before the readers of this journal in our issue of last month. We give below an extended description of the process from information gathered from the Professor himself.

The process of anti-choleraic inoculation and immunity has gone as far as possible in animals, and the success has been most encouraging. It has been tried in human beings to the extent of fifty cases, many of whom after being made immune travelled through cholera-stricken districts and stood the test satisfactorily. As far as experiments have gone Professor Haffkine has shewn, that in every case the prepared or inoculated animals stood the test, whilst the unvaccinated ones succumbed to the ravages of cholera which followed.

That the cholera bacillus is the real cause of cholera there seems to be no doubt whatever at present, and the discovery that disease-causing microbes may change their characters, being capable of transformation into vaccines of fixed and ascertained power by artificial means is, as far as medical science has gone in the present day, and is perhaps the greatest step which can be said to have been made since the study of disease-producing microbes was undertaken. The principles of the method were first worked out by M. Pasteur, by experiments in "fowl cholera," which were fully developed in continuing these researches in connection with the study of anthrax and hydrophobia, which latter was an appropriate disease to employ methods previously applied to animals in the treatment of disease common to the human subject. The result of this study shewed that success was to be obtained by the preparation of a virus gradually increasing in

strength until it reached a degree of virulence above that of the ordinary virus, to enable the organism to become accustomed to the poison with which it was infected, and this intensified virus in connection with hydrophobia has brought out the true *rôle* of the virus being kept in a fixed state of "exaltation" by definite and special experiments. To obtain a virus of this kind and to keep it up at a fixed state are the ultimate aims in the research for a vaccine, and this can be accomplished by the transference of infective organisms through a long series of living animals, and then by cultivating it through a long series of such living animals that the microbe acquires its maximum of infection power. The methods of obtaining the two vaccines, the "weak" and the "definitive" have already been clearly explained in M. Haffkine's lecture published in our last issue.

The properties of this exalted virus may be ascertained by observations on guinea-pigs which are killed in about eight hours after intra-peritoneal injection, the dose necessary to do this being, about one-twentieth the strength with which the experiments began, and rabbits and pigeons are killed now by this inoculation by a dose which would have been harmless at the commencement of the process. Guinea-pigs are killed when the inoculation is made into muscular tissue, but inoculation under the skin produces œdema, and sloughing of the part resulting in a gaping wound, which heals up in from two to three weeks. These are the basis of the researches. The virus when injected into the skin of a healthy animal, gives it after several days immunity from the poison of cholera, and if after this an attempt is made at infection by the introduction of microbes into the prepared intestinal canal, or even into the peritoneal cavity, the animal resists the infection, whilst if the attempt is made on animals unprotected, they do not escape. Inoculation of animals against cholera by these methods have, according to Professor Haffkine, been definitely established. These operations cannot be applied to man owing to the wound which follows the injection being very painful and alarming, and although there perhaps might be no danger to the health of the subject, yet he is exposed to all the dangers of infection arising from an open wound. These results are due to a corrosive action of the microbe, which is removed by growing it at a temperature of 39°C, and in an atmosphere freely exposed to the air. The first crop of the cholera microbes under these conditions die rapidly in from two to three days, but before they die others are cultivated in the same culture, and after a series of generations there is obtained a virus which if injected under the skin of animals even in large doses, induces only a very temporary œdematous condition, and so prepares the system that the injection of the modified virus of fixed exalted vaccine produces only a very slight local reaction. The method of inoculation therefore deals with two vaccines a 'weak' one obtained by weakening the fixed virus, and a 'strong' one, which is really the exalted virus itself. To obtain the weak vaccine, an ordinary virus is not used, but one the nature of which has been previously ascertained, so that its application may be carried out with more certainty, as the ordinary virus under normal circumstances very often presents great differences, especially when they have reached a saphrophytic stage of development. Therefore, the mildness or severity of the injection will not depend on the strength of the vaccine itself, but upon the resistance of the person from whom the poison has been taken, and that of the person to be subjected to inoculation. The whole process recalls to one's mind that in taking vaccine for use as lymph from a slightly affected subject, very often a very weak substance was obtained incapable perhaps of causing protection, but able to kill less resistant individuals. The great point in Jenner's discovery refers to the fact that it pointed to a substance fixed by successive passages through a series of animals at higher virulence, above that which is fatal to human beings. Pasteur's discovery was based on a virus of an absolutely fixed nature, and produced results with certainty by means of special operations, and this is the whole secret and sole guarantee of Professor M. Haffkine's method.

The process of inoculation as our readers are already aware has been worked out by experiments on guinea-pigs, and so that conclusions might be more generalised was afterwards extended to rabbits and pigeons, before it was decided that it should be applied to man. The method has been carried out at Paris, at Cherbourgh and Moscow, and in all cases the inoculation has proved absolutely harmless to health.

The symptoms which follow consist of a slight rise of temperature, slight malaise and pain at point of injection, with a little swelling, the whole subsiding in from forty-eight to seventy-two hours. The symptoms, which follow the second or strong vaccine inoculation are more definite and marked, but lasts a shorter period. The whole train of symptoms here are like that of a bad cold in the head, and lasts from one to two days.

It is interesting to note that the microbes after being introduced under the skin do not multiply and increase in number, but they die and disappear after a short time, and it is the substances contained in them, which are set free after their death which confers immunity to the subject inoculated. In this connection we must also mention that the virus may as a consequence consist either of living organisms or of organisms that have been killed by the action of a solution of carbolic acid, although Professor Haffkine stoutly maintains that, he is able to obtain more reliable and permanent results when he uses the living and not the dead microbes, owing to the diminution in virulence of microbes grown in artificial media. It is better therefore that, inoculation should be made with the living microbes (as the other method is not supported by statistics), to secure the best results. Weak solutions of vaccine have by the above method been preserved for six months, and used successfully at the end of that time; in this of course there is one apparent advantage *i.e.*, of preserving the microbes by this method, as it enables them to be made use of by those who have no bacteriological training, and owing to the absence of the living germs the vaccines are perfectly safe. The antiseptic fluid is a bar to the ingress into the media of other microbes, and thus the vaccine may be prepared and sent out to

distant parts from a central laboratory. The process of preparation of these vaccines is very simple, and can be learnt by any one with a slight knowledge of bacteriology.

If these inoculations are safe, as they apparently are, if the principles are sound in theory, the next and most important question which presents itself to one's mind is, what length of time will the immunity so conferred last?. From experiments on animals we learn that at the end of four and half months in the Pasteur Institute, the immunity conferred was found to be still perfect, and it can be safely said that it would be much longer. Protection for four months after an inoculation of this kind may be looked upon as "full-time protection," conferring immunity at least for four years. The changes and symptoms which follow inoculations in the lower animals are similar in man.

The extended experiments which have been carried out in the lower animals have proved much, and it is only by still extending these experiments to the human subject that any definite conclusion can be arrived at of the utility and value of M. Haffkine's anti-toxical vaccination against cholera—and although it might be urged that, what is true in guniea-pigs, rabbits and pigeons, will perhaps not be true in man, and we believe Professor Haffkine admits this, yet, after the results already obtained, and when the same results follow inoculations in animals so widely different, there is perhaps every possibility, that the same results will invariably follow inoculations in the human subject. The final test however, of what is now partly proven, can only be carried out by the application of the method where cholera is mostly prevalent. For this purpose Professor Haffkine has come out to India, and he will stay in the country for ten months.

We trust as attention has been drawn to this important subject that none of us will be lacking in collecting all the information we can. The Pathological value of these experiments is surely very great, and whatever may be the outcome of all this work, M. Haffkine should have the best wishes and sympathy of the whole of the Profession in this country.

Is it necessary that medical students should have a liberal education, prior to the adoption of that profession, which is to be their life's career? should medical students be scholars; young men of liberal culture; is such a qualification necessary for success in after-life in medicine and surgery? This is the important question of the day, put it as we may. We believe that it is an essential element in winning success. The question of culture being the stepping-stone to professional success is most pertinent. At the present day all educational systems or methods are being stringently scrutinized; and higher education is popular, it is a period when the collegiate system of education by lectures, hitherto confined within the classic halls of Cambridge, Oxford and other *alma maters* is now pursued all over England for the people, and professors of repute are the lecturers.

At the present time higher education as a necessity for all members of civilized communities is a vital topic, and, the masses having sipped at the fountain of knowledge hitherto apparently contentedly, are now, rebelling against being confined to primary education in its simplicity, which used to comprise a knowledge of the three R's, and was thought sufficient endowment for their part in life. Sons of toil everywhere gather at night schools, and enter as students in sessional lectures, even when the course of lectures embrace such an abstruse scientific subject as astronomy.

There are many embryo Hugh Millers scattered over Europe and America, and they are men with horny toil hardened hands, yet devoting their leisure hours to experiments in natural philosophy. There are many George Stevensons, many Edisons, among working men, though few may attain eminence, celebrity often follows a happy accident.

In India, the demand for higher education, for real culture, is arising, and an increasing number of the people are beginning to see the necessity for it.

In the medical profession a feeling is manifesting itself for wider general knowledge, apart from professional knowledge which latter should of itself be of the highest standard at present attainable. We find that professors have been engaged in scrutinizing its curricula, and are still employed in revising it. One important revision is the desire shown of extending its period of study. Surely it is too late for any one to hark back to the time when technical knowledge was considered sufficient for any profession, and especially that of medicine !. The medical profession occupies a chief place among the sciences, and without culture no man can be a good scientist. To be able to discriminate between true and false data and to reason to correct conclusions therefrom requires a special training. A correct diagnostician must be a good logician. We are doubtful whether a doctor with only a techincal training could be a good logician; logic is a science and needs that application and special training of the mental powers necessary to the mastery of any scientific subject. A medical student certainly learns in the class room or the hospital wards to know causes and to follow up cause to effect, and from the effect, to specify cause, and this is called diagnosis, but are there not many who do this only according to authorised *text*, if any symptoms not noted in the text books are apparent in any disease, is not the problem then presented for solution very disquieteing, would this be so if there had been previous culture, which would include a knowledge of the science of logic. To be able to reason quickly, lucidly and correctly, would save many practising physicians much anxiety.

The great names that have shed lustre on the various departments of medicine and surgery, have almost invariably been men of culture. Our text books show that they were written by men of wide knowledge, and therefore, great ability. To learn alone to diagnose technically, is to work in a groove too narrow for the great and allied science of medicine and surgery. To be a great specialist is synonymous with being a man of culture.

We believe culture is more essential for a medical man than for men in any other walk in life. The engineer may be a technicalist and yet reach eminence, the lawyer may only be

learned in the jurisprudence of the realm and be successful, the military commander or the military strategist may have purely technical knowledge and yet obtain the world's applause; not so the physician or surgeon.

Hence the question whether a liberal education, connected with the usual special, technical, or professional education, is necessary as being conducive to the success and efficiency of medical men, is one that should have careful attention. As we have said we have a strong opinion on the subject, and are entirely in favor of a wide general culture; we believe that there can be no better preparation for that more special training which the medical profession demands above all others and justly so, for vast interests are gathered round the necessity of a thorough special education.

The importance of a special or technical training cannot be over estimated; and it is matter for gratulation that, while in the profession of medicine, its curricula is being scrutinized and revised, there is no intention expressed of restricting the importance attached to technical training, rather, the conviction is spreading in the profession, that the technical training should be even more complete, and to attain this end it is proposed, that students entering the profession do previously receive liberal culture; this is as it should be, for the technicalities of the profession ask so much of the mental powers, that they need to be strengthened, trained, and enlarged to their fullest capability; then the subsequent technical teaching will be received and assimilated. Students entering the profession of medicine so educated previously, will not be liable to gather all the technical knowledge they obtain into one heterogeneous mental heap, or to arrange it in their minds in promiscuous order, but each item of technical knowledge will be placed, as it were, in its own mental receptacle, duly labelled, and relative items of knowledge will be connected or laid down side by side. Prominent items of technical knowledge will have a prominent place, nor will those little but necessary items be put away in such a hurried manner as to make it impossible to recall them. Memory having been previously developed and disciplined with precision, will be found recording the facts now obtained, in sequences, so that a leading similar occurrence happening years after, when the student has become a practising physician or surgeon, will recall at once its sequence, and so on to a whole range of sequences very helpful indeed, to an overworked doctor. Assurance results in firmness in taking steps to grapple with and overmaster a disease, and this produces that confidence in a patient so necessary to establish in all cases of serious illness.

Culture confers breadth and flexibility of mind, an invaluable possession for students of medicine, because it renders easy the acquiring of special knowledge and affords power, to arrange systematically all fresh acquirements; and we feel the necessity of repeating this as an axiom. The physician must be always a student, it is a necessity of his calling; man in the aggregate is as changeable as the tints displayed on the restless waves of the sea; new habits of life are constantly being assumed by human communities; fashion calls its votaries into many foolish and harmful ways of living, and many other perceivable and unperceivable causes are at work, giving to diseases known, changeable characteristics, and introducing new types of disease. To meet and grapple with to subjection, any of the dire visitations of disease, such as cholera, influenza, small-pox, spreading so often and so quickly from nation to nation till the world is encircled, to meet such crises requires the possession of such rare abilities that a technical education only could not bestow. To be celebrated as a specialist, checking the spread of any great epidemic, a man must possess high qualifications, needs culture to obtain such qualifications and our great physicians confirm this truth, being men of liberal education. Of course there can be and no doubt there are exceptions, but such exceptions only manifest the truth of the assertion by proving it correct.

Again, culture is invaluable as it develops a knowledge of human nature, and this knowledge is of importance, as it enables a doctor to treat his patients not as if they were cases only, but as complex, sensitive and highly organised men and women. To look upon men and women suffering from disease simply as cases, may no doubt, appear most sensible and the only necessary way from an utilitarian point of view. It is all very well to nurture an utilitarian spirit and not utilitarian opinions, but, utilitarianism should stop short of thinking of suffering men and women as mere composites of mechanism, and it is against the prevalence in the medical profession of such views and such a spirit that we have been led to write on the importance of wide culture for medical men. Man may be looked upon as a mechanism, but a machine both fearfully and wonderfully made, and to express it thus is to define the human organism most correctly. The construction that makes up the psycho-physical being called man is so sensitively put together, and yet so well proportioned, of such suitable material are the most delicate parts, while they are so well placed for their functions, so guarded from injury, no part being independent, but each dependent on the other, the weakest and most delicate parts or the stronger and coarser, that no other definition would be so applicable; the whole shews that it has been designed by a great mind, with powers much higher than those with which man is acquainted, and so the thoughtful man learns to know his Creator even outside of revelation. The living man whether he will acknowledge it or not, hymns praise to his Creator perforce.

In our opinion it is manifesting a narrow spirit to assume as an axiom, that all education for a profession should be limited to the special needs and work of that profession, if this plan, was followed by all men who have embraced the medical profession as their vocation in life, it would not be presumption to say, that profession would not have attained the honored position it has, but for the lustre shed on it by those members who have been men of liberal culture; the calling of medicine elicits the respect of laymen as a learned profession, it is due, even from early times, to men of culture that this is so, that medicine was raised from being simply a craft; therefore, it would

be adopting a retrogressive policy now, to limit the culture required of the students of medicine to education in the needs of the profession, and we think it almost absurd to insist on this for medicine, at a time when members of other professions are advocating progression and wider culture; when even craftsmen are requiring a better education of their apprentices before they begin the work required by the trade. Knowledge is spreading so rapidly among civilized people, bringing light in its track, that we say, advisedly, that, it will be impossible to keep the study of medicine apart, in its own groove as it were. The revision of its curricula must very shortly result in an insistance by a majority, if not the whole profession, of the necsssity there is of previous liberal culture for all students who desire to enter the portals of its colleges. It must be so, for the pressure of public opinion would bring it about though committees and professors should be indifferent, but professors are not indifferent, for the movement which recognises the necessity for a previous liberal culture for medical students has been initiated by them, and we are glad to know that it is in accordance with the views of a large majority of the members of the profession.

Many members of the profession however, believe that the stern struggle for existence which is characteristic of the profession in many parts of England, furnishes sufficient evidence to shŏw, the unsuitableness and even superfluousness of liberal culture, for the men thus struggling. All the culture they require should be of a practical character! and this course would be more immediately and obviously useful. Of what advantage would the pleasing and refining influence imparted by liberal studies be to such men? We believe a grave mistake is made in taking this point of view, and that this is so will be apparent if we compare medicine with any other local learned profession—say ministers of religion, and a very apt comparison too. Many ministers of the Church of England in similar localities are incumbents of very poor livings, and have to maintain even a severer struggle to live than medical men, yet, by common consent we require that ministers of religion be men of liberal culture. In any struggle to live the doctrine of the survival of the fittest is exemplified, and on this ground alone if on no other, the necessity for those so struggling, to be men of liberal culture, should be seriously advocated, for a liberal culture is synonymous with the possession of those endowments which produce self-reliance, patience and perseverance, while energy is never wanting. A boor or ill-educated man will give up a struggle disheartened, very much sooner than a man of liberal culture would do so; history teaches this, and life seething around us illustrates this teaching constantly.

Sacrifice Greek, limit the study of Latin, ignore English literature, and concentrate all the powers of the mind upon physical and biological science! such is the view of some professors, but we cannot agree with them here, Greek and Latin and classic English are invaluable to any one who would enter any learned profession. Greek and Latin and mathematics, in the opinion of educationists who have left their mark on English scholastic history, as men of the times, are held to be indispensable for exercising the mental powers and for training and developing the mind in habits of critical study. It is owing to the absence of Greek from the curricula of Indian Universities, and to the meagreness of the teaching in Latin, that we hear so much of the poor scholars who are passed out year after year; experts in educational matters attribute it to this want in the scholastic course prescribed; tho' our colleges pass these young men out stamped with their diplomas, it is known, that only a minority of these graduates can claim to have received a liberal education, or to be students in the right sense of the word; they have not been taught Latin and Greek as a means to an end, and have missed the true aim of education, the power to think deeply and critically, and the result is that a large number of these alumni have only a superficial education, a knowledge verbatim of text books; and hence our Medical Colleges have to complain of the facility which Indian students shew in studying their text books verbatim; getting whole pages by heart. In Bengal, native students have been known to answer their examination questions word for word, and for whole pages from their text books, relying solely on their memory to accomplish this feat.

Has not the time therefore come when our Medical Colleges require that students receive first, a wider liberal culture than is at present necessary to their admission into such Colleges. There may probably, at the beginning, be some resistance from prospective students but, this would soon pass away, resulting in the raising of the dignity and honor of the medical profession as a whole. India especially, cannot afford to let this question of the advantage of previous liberal culture for medical students be answered in the negative. The profession of medicine after the Western schools has a great future in India, and we require only able men as its representatives.

We are far from advocating any abortive and anachronistic attempt, we do not say that medical students should be turned into classical or literary pedants; the hospital ward and the consulting room should still be most important in the systematic education of a medical pupil, a liberal education would not be a preparation for this, but it would be a preparation of the intellectual powers, enabling students to observe and reason from effects back to causes, and *vice versa*, more quickly and more carefully, an essential attribute for pursuing efficiently medical study. We would remind those who advocate that the education of a medical student be only medical or technical, those who are most stringent in their views that our present curricula is as it should be, and needs no scrutiny or revision, to all such opponents we say, even at the danger of repetition, that the preparation of the intellect for the reception of knowledge is an object as important and great as the character of the knowledge to be imparted—this is the parallel, if medicine is not very important, the preparatory education for it may also be of minor importance; but, if medicine is of great importance, it follows that the preparation for the study of it should be equally important. Everyone will admit that some preparation is indispensable, the point in dispute being whether the preparation will be meagre or liberal; we should be

able to estimate this by the value we attach to medicine itself. Can chemistry, physics and biology afford sufficient basis for an all-round intellectual development? We do not think that the greatest enthusiast for technical education alone would affirm this, or even hardly suppose it. We know that technical education is important, nay most important, yet the student who is only thus educated knows nothing of the history of his race; he is quite ignorant of the highest and noblest achievements of the human intellect. He is simply a chemist, biologist or physician.

The real point is, in what manner can we bring, with as little waste of time as possible, trained and disciplined minds to begin their medical education, to investigate the problems of disease. Yet, though this is the real point many will not accept the case put in this way, others no doubt will ask in a derisive spirit how the Differential Calculus, or a knowledge of Greek grammar, or an acquaintance with the categories of German philosophy, and its vagaries, are likely to be helpful. Rhetorically it may be very effective to sneer in this way, but of course it is not conclusive. The medical student needs strength and grasp of mind, the capability to note resemblance, and recognise differences—the power of determining what amount of evidence is sufficient to warrant a given conclusion, he must also possess some capacity of reading character, otherwise he will be unable to estimate correctly a patient's statement and to eliminate the personal equation; he needs to learn caution, to avoid haste, the danger of being inaccurate, while at the same time he should be free from prejudice and preconceived opinions, fallacious reasoning, confused or contradictory ideas, want of tact; these are the several pitfalls to be avoided. This is a very high standard and denotes the possession of rare abilities, which one cannot be the happy possessor of without submitting to the process of a good preliminary education, however tedious and troublesome such a course may be.

To set raw youths whose minds are wholly unformed, to dissect snails, mussels, and frogs, to teach them to look down microscopes, to be familiar with the use of test tubes, is the great danger of medical education at present, and as regards India, and more particularly Bengal, this danger cannot be over estimated; for this system makes these youths imagine that little else is necessary while they are destitute of any knowledge of, and have no correct ideas regarding observation, evidence, and how to reason logically; we believe that such a system of education is as unwise as it would be to insist for a practical profession like medicine, that undue devotion be exercised in acquiring those branches of knowledge which go to make up what we call a liberal education.

The old methods of education by means of the classical languages and mathematical studies, is still supported, as we have said, by many of our best educationists; we have the testimony of a ripe scholar, and experienced judge of the effects of various educational systems as Cardinal Newman, who says, in one of his works, that there is ample proof that the old mothods of instruction produce mental flexibility and grasp, and that there is no proof that any other methods are adequate for this purpose. Apart from purely professional work, we have to consider which is the best method for cultivating the intellect, and promoting that mental attitude, which would help the physician to see in a patient not only a sufferer from and a subject of disease, but, a human being. For professional success, as is justly observed so often, is achieved not only by skill, the medical man knows that a sympathetic manner is a subtle attribute which, enables him to so influence his patients as to make them willingly submissive, and that this attribute has no small share in making him successful. The successful family doctor has always a magnetic influence in this way, an influence which creates implicit faith in his patients regarding his power to do them good, and no other doctor is supposed capable of understanding their ailments so well or of being able to administer such efficient remedies. A few only are endowed with such a sympathetic manner, and such a magnetic influence, but for the many, there is no other way of acquiring it than by a knowledge of different subjects, good all round culture; gifting the possessor with a keen spirit of discernment which applied to the occasions and occurrences of daily life, we call tact. Such culture will enable its possessor to understand different types of mind, to see as they see, to sympathise with their various difficulties and apprehensions, and to sooth them to amiability.

We ask finally why some have so deep a prejudice against higher culture as preparatory for the profession, its benefits are undoubted and apparent, and only prejudice can close its eyes to these facts. Is it because some say, that liberal culture produces a state of mind not in harmony with that devotion to the dreary details of technical or professional knowledge, which is so necessary, and which should be so hearty? The celebrity attained, in the past and present, by medical men, possessing liberal culture is an answer to such a doubt, and demonstrates that literary culture is not a hindrance, but a stepping stone to scientific eminence and professional success.

Medical News Letters.

LONDON LETTER.

[FROM OUR SPECIAL CORRESPONDENT.]

EXCISION OF LUPUS, AND SKIN-GRAFTING.

IN the November number of *The Medical Reporter* you published a paper on skin-grafting, in which special reference was made to Thiersch's method. This proceeding has lately been applied to the treatment of lupus, and several cases which had been successfully treated were shewn at the Medical Society, on Monday last. Mr. Bruce Clarke introduced the subject with a paper, describing two cases of lupus of the nose, which had been dissected off, and the resulting raw surface covered with Thiersch's skin grafts. The results were excellent; the wounds were healed in 10 days, and the subsequent deformity is very slight. In these cases only about one square inch of skin was removed. Mr. Cheyne, brought forward a case on

whom he had operated in a similar manner; he had removed the lupoid skin from the whole of one check, the eye lid, and the side of the nose, and had covered this extensive surface with skin grafts; there were also some patches of lupus on the back of the hand, these also were excised, and the surface covered with skin-grafts. Mr. Bidwell shewed two cases, on whom he had operated. In one, the lupus was situated on the front of the shoulder, and had a superficial area of 30 square inches, in the other, the lupus was on the inner side of the thigh; both were freely excised, and covered with Thiersch's grafts with a very satisfactory result. He recommended that in all cases the whole thickness of the skin, and sometimes even the subcutaneous tissues also, should be removed in order to prevent recurrence of the disease. The incision was carried ¼ of an inch from the margin of the lupus. The general feeling of the meeting was that, this was most important advance in the treatment of lupus, and that there was no doubt that it would entirely supercede scraping.

PROSTATECTOMY.

The question of the advisability of this operation was lately brought before the profession by Mr. Buckstone Brown, who recommended the operation when a patient had to use a catheter every 2 hours, and his life was a burden to him in consequence. He quoted the case of a gentleman, *æt* 72 years, on whom he had operated, a year ago, for a small stone, and finding the prostate much enlarged, he had removed two ounces of the gland, the patient can now pass all his water without requiring to use a catheter. The general feeling of the Society, was that the supra-pubic method was the best, and that the gland should only be removed, when obviously projecting into the bladder cavity. Bleeding is the worst feature of the operation, and can be best prevented by using special small teethed forceps which crush, as well as remove the gland. All agreed that there was a considerable risk in the operation.

HARNESS'S "ELECTROPATHIC" BELTS.

Considerable interest has been excited in the profession by the lawsuits, in which these *electric* belts have taken a prominent part. The first case was an action for libel brought by one Dr. Tibbits against *The Electrical Review*. Dr. Tibbits had written a report of these "electric" belts, trying to shew that a current of electricity passed through them; for this report he had received two guineas. *The Electrical Review* criticized this report and stated that Dr. Tibbits shewed ignorance of the simplest electrical laws, and the report was simply a puff. Hence the libel action. At the trial Mr. Justice Mathew would not allow the question of the medical utility, or rather uselessness of these belts to be discussed; but in the second case of a libel action brought by *The Electrical Review* against the Medical Battery Co., (Harness) the Lord Chief Justice said that such evidence was to the point. *The Electrical Review* was provided with evidence shewing the absurd treatment of cases adopted by Mr. Harness. The following are some of the cases. A case of inguinal hernia for which no truss, but an electric belt was given. A case of locomotor ataxy from whom Harness received £100 promising to effect a cure and only passed some electric shocks through the lady occasionally. Another case was that of a young man with undescended testicles, which deformity Harness promised to remedy by means of electricity for the consideration of 30 ginneas, *etc.* Needless to say that Mr. Harness did not wish to face this evidence, or to have it published, and so consented to a verdict against him, and had to pay £1000 damages. It is to be hoped that these two cases may do something to open the eyes of the public to the uselessness of these belts, which have only got so large a sale through advertisements. It is said that Harness spends about £80,000 a year on advertisements.

PROFESSOR VIRCHOW.

The Royal Society of London was fortunate in securing Prof. Virchow of Berlin to deliver the Croonian Lecture this year. The Professor chose for his subject "The position of Pathology among the Biological Sciences," and a very interesting lecture it proved. In the evening he was entertained at a banquet given at the Hotel Metropole, Lord Kelvin being in the chair. A large number of the leading members of the medical profession assembled to do honour to the great pathologist.

HOSPITAL NEWS.

The London Hospital has had a great loss in the death of Dr. James Anderson, one of the most rising physicians in London. Dr. Anderson died after 24 hours illness of diarrhœa, at the early age of 40. There will shortly be great changes in the staff at St. Thomas', the Senior Surgeon, Sir William MacCormac, and two of the Physicians, Drs. Ord and Harley, all retire this summer.

Transactions of Medical Societies.

THE CALCUTTA MEDICAL SOCIETY.

THE third meeting for the year took place at the Medical College Hospital, on the 8th March 1893, the President Dr. K. C. Bose in the chair. The meeting was well attended.

Surgeon Major O'Brien, the Second Surgeon shewed the following—A leg which he had amputated for a myeloid sarcoma which had expanded the lower end of the shaft of femur, and had almost invaded the knee joint. The second case was that of dry gangrene of the two larger toes. He also referred to another which had recently come under his care, and said that there was no history of diabetes in any of the cases.

Dr. Raye, the First Surgeon.—He said that he had a case lately, which terminated fatally. The patient was a middle aged man and had heart disease. Here, there had been great pain, restlessness and obliteration of the arteries.

Dr. Kedar Nath Dass then read his paper on.—"A case of Idiopathic Tetanus."

The patient by occupation a sweeper, aged 36, was admitted into Dr. Birch's ward, Medical College Hospital, on the 5th of Jannary last, and gave the following history—that ten days ago ,he felt a stiffness of both the jaw and neck, which was followed by spasms of a tetanic character five or six days

after. He gave no history of exposure or injury, and previous to this he had been well and at work as usual.

On admission.—The patient is well nourished, bowels have been and are constipated. Heart and pulse normal. The spasms come on very frequently and without warning. He was able to partially open his mouth, but with difficulty. He was ordered a fœtid enema which operated freely, and the following mixture to be given every three hours—chloral hydrate 30 grs, bromide of potass; 20 grs, tincture of cannabis Indica 5 minims, with camphor water.

Progress.—January 6th.—Spasms less frequent, and abdominal muscles not so rigid.

7th.—Enema repeated. Spasms every quarter of an hour. Takes his food, which is liquid, with a little difficulty. Bowels opened.

8th.—Better to-day. Spasms not so frequent.

9th.—Passed a fairly good day, but was very restless at night, being disturbed by frequent spasms.

10th.—Spasms are more frequent and come on at every attempt to swallow. Mixture continued, but ammonia bromide added instead of the potass bromide. It was necessary to administer chloroform and keep the patient under its influence for over thirty minutes. Passed a better night.

11th.—Much worse to-day, although spasms are less frequent. Very weak, and is unable to take any nourishment. Mixture continued.

12th.—Slightly improved. Pulse not so weak as yesterday, is more lively.

13th.—Very much better to-day. Every indication of patient improving. The spasms are less frequent and not so severe.

22nd.—Patient has been doing fairly well since last note, spasms have been continuing few and far between, and he had the last attack on this date.

26th.—Patient comparatively better. Pieces of tape worm discovered in the stools, and he was ordered doses of male-fern, thymol and castor oil, which brought away a number of segments, but the head could not be discovered. In the treatment a large quantity of hydrate of chloral had been given, over 7 ounces, and the diet during the treatment was milk, bread, beef-tea, sago and rice.

Continuing, Dr. Dass said.—The following are the points of interest to which I would draw your attention. Absence of history of exposure, the presence of tape worms, and lastly to the quantity of chloral administered.

After this Dr. Dass remarked at great length on the etiology of tetanus with reference to peripheral nerve irritation. He referred to a very important paper, and to the discussion which followed on the pathology of this disease read before the Royal Medical and Chirurgical Society on the 11th of December '77. He also briefly alluded to the theory against "nerve irritation", and then made a few remarks on chloral in tetamus, and stated that the secret was, large doses must be given, and as a proof of how much of this drug could be administered without harm, he prepared and read out a table collected from the *Lancet* for the past twenty years. The dose to begin with he said was, 30 grains for an adult, which could be increased according to indications. The doses should be followed before the effect of the last one had passed off, but this was just where practitioners generally erred, they always waited till the effect of the last dose had passed away. If the patient was thus kept under the influence of the drug a fortnight, there was every chance of recovery. Indian hemp in combination was advantageous.

Dr. Dass' paper was followed by a short discussion in which Drs. O'Brien, Raye and Chatterjie took part, and the meeting came to a close by the President remarking that, he thought that sewer gas had much to do with the increased frequency of tetanus, and that the disease used to be much less before 1872, *i.e.*, bofore the introduction of the present system of sewers. He then thanked Dr. Dass for his very interesting paper.

THE fourth monthly meeting of the Society was held on Wednesday, the 12th of April, at 6 P.M., in the Medical College Hospital, the President Dr. Bose in the chair.

Dr. Crombie shewed a specimen of Typhoid ulceration of the bowel. There was nothing remarkable in the specimen but Dr. Crombie, said that he brought it before the Society on account of the very great rarity as he thought of the occurrence of the disease amongst Natives. In the specimen shown the ulcers could be distinctly seen, also scattered Peyer's patches. Dr. Crombie said it was very remarkable that a student might go through his whole course of four years in the Calcutta Medical College, and not see a single case of "Typhoid Fever." The differences between this and Remittent must be always borne in mind. From the Reports of the Inspector-General of Civil Hospitals, Bengal, it appeared that, for twenty years only 41 cases had been admitted into the Medical College Hospital, and of these, 34 admissions took place during 1872 and 1876, and during 1877 to 1891 only 17 cases. During the ten years 1880 to 1889 only ten cases. During twenty years there had been admitted into the Presidency European General Hospital, Calcutta, 229 cases; and there had been 25 admissions into the Howrah General Hospital. In the Mayo there had been no cases since 1876, excepting 1 in 1881. None in the Campbell Hospital since 1874, excepting one case in 1881. There had been no admissions in the Police Hospital since 1876, excepting two cases in the year 1885. The statistics of the Police and Campbell Hospitals he said, shewed that every case of Remittent Fever was returned as Typhoid between 1871 and 1878, but since then all had been recorded as Remittent. In the Campbell Hospital he said there had been 94 cases thus returned as Enteric in the year 1871, 86 cases in 1872, 28 in 1873, 2 in 1874, and not one case has been returned as such since, shewing clearly that personal opinions had much to do with these Returns. The inference he drew from these statistics was that, cases of Typhoid Fever were confined to those hospitals which opened their doors to Europeans, and that the other hospitals, where Native patients applied for admission were practically

exempt as far as can be gathered. In the large Hospitals there was no possibility of mistakes, as *post mortems* are made, and under these circumstances positive statements could be offered. As far as Natives of India are concerned, Dr. Crombie said that, he had not seen a single case of Typhoid in his experience amongst them. During his seven years of service as Civil Surgeon at a mofussil station, he had done on an average 300 *post mortems* every year, and not a single case of Enteric Fever did he meet with, and during the two years he was Junior Civil Surgeon at Rangoon, he had seen many cases amongst the Burmans. He prepared a Report on Enteric Fever in 1871, which was published by Government in the *Indian Medical Gazette*. He then said that there was one more class of people in this country like the Burmans who suffer from Typhoid Fever. It was found some time ago in the Returns submitted to the Surgeon General that there were some Native Regiments who returned cases of Typhoid Fever, whilst others did not. On enquiring it was discovered that it was prevalent amongst the Goorkha Regiments. The connection between the European, the Burman and the Goorkha is wide, but there is one thing amongst them common to all, and that is, they are all meat-eaters and spirit-drinkers. The immunity amongst the others races is interesting. Insanitary conditions amongst the Native poor is well known, and is favorable to this disease, but where the system of drainage afforded conditions to make the Fever rife, it could only be accounted for by imagining that the Natives had immunity, by some element in their blood which might be utilized to prevent infection, and resist the germicidal influence which is understood to be the cause of Typhoid Fever.

Dr. Simpson.—He said the statistics which were read out were of course very interesting, but the "food and spirits", influencing the development of the disease, would if true, only account for it in adults. Europeans, young and old, were prone to the disease, but whether the same could be said of Native children, he was not certain, and he did not know whether this had been worked out. He quite believed that long residence in Calcutta conferred immunity from Typhoid Fever as from Cholera. There were other diseases which attacked both Natives and Europeans, and if Typhoid Fever is due to a bacillus there must be some reason why the Natives are immune, perhaps it is immunity conferred by long residence.

Dr. Gibbons.—He said, that he did not find many cases of typhoid ulceration at the *post mortems*, except in recent arrivals, who come into Calcutta for work, they sleep about the streets, get fever and die. Only a few specimens were to be found in the museum. There is not a single case of Typhoid spleen in the museum. He said he was looking for the typhoid bacillus the other day in mesenteric glands which he examined, but could only see small clusters like micrococci or bacilli, and in one specimen especially, not like the specimen "clumps of bacilli"; as seen in Europe in the spleen and mesenteric glands. The specimen referred to as having been examined, Dr. Gibbons said were very old, and had been in spirits for something like ten years, and the means at his disposal for staining were not very perfect. The specimens were quite different to ones he had seen in Vienna, which were typical.

Dr. Bose, the President.—He said the best thanks of the Society, were due to Dr. Crombie, for the specimen of typhoid ulcers he had brought before the Society, as also for the collection of the valuable statistics he had read out, but he said, he entirely differed in the opinions, which had been expressed, that Natives of India are less susceptible than Europeans. Sometime ago, he added, he drew the attention of Dr. Simpson to numerous cases amongst the *marwaries* in Burra Bazaar, caused by sewer gas. No *post mortem* examinations were made in the cases which ended fatally, but he said that, he was sure that they were genuine cases of Enteric Fever, and in several instances his opinion was corroborated by Dr. Birch. He was of opinion that it was extremely common amongst the Natives of India. He then referred to Dr. Gibbons' examinations, and said, that, he had no opportunity of making similar examinations, but that he attributed Typhoid Fever to sewer gas emanations and repeated that, Typhoid Fever was "very common" in the Native section of the town of Calcutta.

Dr. Gibbons then shewed a specimen of "Gangrene of the Vermiform Appendix," and made the following remarks. He said that this was an example of a disease which was attracting much attention in England and America. American Surgeons had done much towards this affection, and based on their operations, they call it Gangrenous Appendicitis.

In this instance this specimen is from the case of a young adult male, who came to hospital on sunday the 19th March, 1893, in the forenoon, in a very low condition with obstruction of the bowels for four days, pulse 97, hiccough, pain, walls of abdomen rigid, tender to palpation, especially in right iliac fossa, and a high pitch in the left iliac fossa on percussion. Dr. Raye fixed the operation for 2 P.M. Later on the patient became very weak, passed a loose stool at 12-30, which was followed by a second one, and a third one at 1-45 P.M., He died within 15 minutes after the last motion. I had an opportunity of making a *post mortem* examination. On opening the abdomen the peritoneum was found acutely inflamed and the omentum was glued in places to the abdominal wall, a portion attached to the inner side of the cæcum, the intestines were in dark red coils and distended. The cæcum and end of ileum were inflamed, the mucus membrane was healthy. On separating the vermiform appendix it was found much thickened and congested, and was perforated in 2 places, the perforations had ragged edges. One was larger than the other and was about the size of a two-anna piece, the other about half its size—both were situated on the cancave side of the appendix. On removing it I found some pus between the peritoneum and cæcal orifice. It was the size of an ordinary orange pip, was occupied by a substance of a lead grey color, which broke up into a putty-like substance. It was gritty due to the deposition of lime salts (enterolith), which mass was the cause of the disease. Acute appendicitis goes on rapidly to peforation and is followed by peritonitis. If less acute, adhesions form and local peritontis sets in. The great danger is the risk of

general peritonitis. Operations done by American Surgeons for this affection, are very successful. It is rare to find it caused by a foreign body, but enteroliths are common. He had not come across a case of pure appendicitis, but had seen many cases of typhilitis. American Surgeons say, that typhilitis with appendicitis is common in old people, and appendicitis in the young.

Dr. Moir shewed a convalescent patient "A Case of Hernia and Suppurative Peritonitis." The patient a young Eurasian, 30 years of age, fitter by occupation, was admitted into the First Surgeon's ward on the 27th December, and gave the following history. Whilst at work lifting something heavy, a bale of paper 600 lbs in weight, he felt something give away, and then noticed a hernia on the right side for the first time, which he reduced himself, this was on the 24th. On the 25th, he reduced it again, and so on three times, when he found he could not do so on the 27th, he came into hospital with the following symptoms,—intense pain, vomiting, *temperature* 100·4°, pulse 124, hiccough, abdomen distended, *no motions* for three days, tumour dull, no impulse.

In the afternoon, I cut down, and only found a mass of strangulated omentum but no intestine, I tried to pull down more omentum with the object of transfixing it and then to cut off the strangulated portion, but all the omentum which came down looked just as congested and strangulated. On inserting my finger into the canal no band or twist could be discovered, perhaps the patient in reducing the hernia himself did so *en bloc*, for all the omentum which came away was intensely congested. As a final resource it was ligatured high up, and the remaining portion was returned into the abdomen, the remaining portion of the operation was concluded as if a radical operation was being performed.

There was much flatus on the day of the operation. Every thing went on well till the 8th January, when a small abscess was discovered at the extreme end of the closed wound. This was opened on the 8th of January, the sloughs removed and drained. On the 15th, all the former symptoms returned, the temperature was now 1 to 2 degrees higher, bowels were costive, moved very scantily after an enema. The symptoms subsided on the 18th of January after a copious enema. During the three days the urine was very dark, almost blood-stained due to the presence of *indican*. On the 27th the abdominal symptoms were again as bad as ever. He was ordered a pill of extract of belladonna, and another enema. He continued much the same till the 4th February, the abdomen appeared to contain a quantity of fluid, the temperature was 99, there was nausea, hiccough, great pain, the bowels were acting well, the patient seemed to improve, but got worse on the 8th February, when Dr. Raye removed about 7 ozs of a dark sanguineous fluid and performed laparatomy on the 9th, when 4 pints of a peculiar looking fluid was removed, and pieces of slough. The parts were washed with warm boric lotion, and a glass drainage tube inserted which was replaced by a rubber tube on the 17th of February. The fluid removed consisted of pus and varied in thickness, it was watery, thick, and quite yellow, like a golden oily fluid. After this he was very well till the 26th of February, when it was necessary to remove 26 ounces of fluid and again wash out with warm boric lotion. He continued fairly till the 9th of March. On the 11th, he complained of great uneasiness below the costal arch and great pain. It was necessary to again incise, and now from 6 to 8 ounces of a serous fluid was removed, since then he has improved and has got on nicely.

In conclusion, I have to thank Dr. Raye for permitting me to bring this case before the Society, and would here remark that the small abscess was not I think in any way connected with the grave symptoms which followed. The first circumstance in connection with the patient reducing the hernia himself might perhaps be said to explain these grave symptoms. There must have been a strangulation of the omentum which was returned unremedied and which sloughed and caused all this mischief *i.e.*, secondary inflammation and pus. The clear oily fluid resulted from the sloughed omentum, the frequent abdominal symptoms, and again the tendency to constipation, looked as if he required another aspiration. All that however has subsided since the last localised abscess.

Dr. Moir then shewed a specimen which was sent down by Dr. Maynard. It was that of a fibro-lipoma removed from the right labia of a Native female, aged 24. She had never had any children. The growth had been increasing much during the last two years. It was removed simply by being cut off at the place from where it grew by a thin neck-like connection, and only two vessels were tied.

Dr. K. N. Dass then read a short paper on "A Case of Extraordinary Exertion after labour". The case occurred in that of a Native woman in her first pregnancy. She was delivered on the 6th of February at 11 A. M., whilst engaged in her ordinary duties. She felt very strong pains whilst in the latrine, the child was born there, the placenta came away after one hour, and there was a great deal of hæmorrhage. The child was wrapped up and placed in a corner of the latrine, where it died after a little time. She continued her household work and left Calcutta on the same day, walking first to the Howrah station at 2 P. M., and travelled a distance of 97 miles to Baranagar station, arriving at 4 A. M., on the 7th, and from thence she walked to her native village a distance of 26 miles, which took her three days to do. During the journey by train she had no sleep and had to sit up all the while without any food. She was arrested by the police and brought down to Calcutta to the Eden Hospital on the 12th, and there passed a normal puerperium. She was then placed before the Magistrate on a charge of infanticide and concealment of birth, was convicted on the latter charge, and sentenced to six months imprisonment. Dr. Dass continuing said.—As far as he knew, he only remembered one case very similar to this one recorded by Chevers, where a woman walked 2 miles. In the case he had related it referred to a young woman where there was no suffering, and she

was able to bear much more than could be borne by one in the higher walks of life.

Dr. B. L. Chuckerbutty.—He mentioned the case of a woman who supported herself by collecting and selling firewood. She was delivered in the jungle, and after three or four hours, she brought the child and her bundle of wood into the village, which was three or four miles distant. She suffered in no way by this.

This brought the meeting to a close.

MICROSCOPICAL SOCIETY OF CALCUTTA.

At the recent general meeting of the Microscopical Society, the Chairman T. H. Holland, said he regretted he had to announce that the President was unable to attend owing to ill-health, and he suggested that the item which stood against his name, should stand over till Mr. Wood-Mason could bring it forward himself. At present he was unable to do more than send to the meeting a drawing of the organism under consideration. The drawing was handed round for inspection, and it was observed with reference to it, that a few weeks ago a scum which appeared on a tank in the suburbs, had been submitted to Mr. Wood-Mason for examination. He found it was composed of a hitherto undescribed species of Entomostraceous Crustacean, which he proposed to call *Eodaphnia Indica*.

Mr. Holland then proceeded to exhibit and describe an effective and simple appliance devised by him for the examination, by reflected light, of such minute objects as sand grains and other minute mineral particles, foraminifera, &c. The contrivance is an ivory hemisphere, about an inch in diameter in which a concentric hollow hemisphere, rather less than 3/8ths of an inch in diameter is sunk. A conical hole is turned, so that its axis is at right angles to the plane of the great circle of the hemisphere, and its apex in the common centre of that plane and of the small hollow hemisphere. The object to be examined is stuck on a small piece of wax and mounted, as nearly as practicable, coincident with the centre of the hemisphere. The hemisphere is now placed in the central aperture of the stage, which must obviously be less in diameter than the principal diameter of the plane of the hemisphere. It was demonstrated that in this position the ivory hemisphere might be turned about in every direction without shifting the object from the focus, or from the centre of the field, and yet subjecting every point on its exposed surface to the objective. The conical hole is used when an object is examined with trasmitted light: in such case the wax has to be omitted. The hemisphere may be constructed of cork, hard wood, or any suitable material. Mr. Holland said he had described and figured the appliance at page 53 of *Science-Gossip* for 1889, and that it was constantly used by him in his daily work. The instrument is also described, in Coles "Aids in Practical Geology," page 115.

Mr. Simmons was next called upon to read a note he had prepared on "Some Recent Researches among the Bacteria." The following extracts from the paper will indicate its scope and object.

"This note is the result of a suggestion made at the last meeting of our Council, when the President and Vice-President directed our attention to a Report on the Bacteriology of Water, recently submitted to the *Royal Society* by Professors P. F. Frankland and Marshall Ward. The paper appears in Vol. LI. of the Proceedings of that Society page 183, under date the 4th of July 1892:—"In the case of certain pathogenic forms the presence of spores and temperature are important factors; the higher the temperature the more rapidly are the bacteria eliminated; but they hold out better if they have matured their spores. It has been proved that certain pathogenic species do not flourish, and indeed, that they die out at low temperatures. In the case of cholera germs temperature, the nature of the bacteria competing with them in the struggle for existence, and the vitality of the germs themselves, are determinate conditions. At a temperature of 10·5°C. Koch's spirillum succumbed in two days in the conflict of organisms with the rapidly dominating "water forms," a term applied to non-pathogenic forms found in most normal waters. Cholera spirilla maintain themselves for at least seven days in all kinds of sterilised water, and in some instances have been found after 82 days; but in non-sterilised water, this form is rapidly overcome in competing with other species. Conditions which have not been determined, sometimes enable the spirillum to hold its ground among the water bacteria: when the cholera spirilla thus succeed in maintaining their foothold, they seem to be in some sense established, for they then rapidly multiply on removal to fresh water, and prove more resistant to their foes, the water bacteria. On the whole, the cholera germ is not a very resistant form. Though they die off rapidly in distilled water, ordinary river, well, and tap waters have been known to show the presence of living cholera germs at least seven months after infection. The conditions which determine the results of the contest of organisms among these low forms appear to be their successful seizure of oxygen and food materials, and the toxic action of their metabolites. A very minute trace of organic material will induce rapid multiplication. The small amount of food material carried in during infection may suffice to account for the continued activity of bacilli under circumstances where they might have been expected to die off; and it is not improbable that the products of decomposition of the dead and dying bacteria may afford food materials for the rest. The influenee of temperature may be inferred from some investigations by Karlinski who infected five different waters with the bacilli of cholera, anthrax, and typhoid. He kept the waters so infected along with samples of similar non-infected waters at 8°C. In all uninfected waters the normal bacilli increased at the temperature indicated, and that at that temperature they dominated the pathogenic forms was proved: the cholera bacilli could not maintain themselves for three days; anthrax for three days, and typhoid not beyond six, after which the normal bacteria were the dominant forms. At ordinary temperatures Uffelmann found that typhoid germs held their ground for from several days to two weeks; anthrax germs remained alive for

three months; but cholera germs are very much less resistant though they may nevertheless be carried in such waters as are used for domestic purposes. In this connection it is important to observe that the belief in the danger of washing out milk cans with water containing typhoid germs has been proved to be perfectly well founded.

"To sum up the results of the recent research: water is proved to be a very variable medium, no two rivers being probably alike. Because a Schizomycete is a minute organism, amongst even minute organisms, an extremely attenuated trace of organic matter is sufficient for its nutrition. It is, moreover, an exceedingly delicate organism, and its reactions are correspondingly delicate and complex.

"Another element in their environment, which reseasrches among the bacteria show, is probably of importance, is *light*: *at any rate* it is clear that it is so in respect to certain forms *and notably* in the case of typhoid bacilli. The subject is of some interest, and you will pardon me if here again I desert the report on which this paper is mainly based, and of which it is only an abstract, and avail myself of Dr. Sims Woodhead's *Bacteria and their Products* an excellant volume in the *Contemporary Science Series* issued about two years ago.*

"All this accords with much that is known in regard to the chemical action of light on plants. Some here have, doubtless witnessed how the Oscillatoriæ, which are common in our tanks, swarm to the lighted side of a bowl of water. Dr. Hansgirg, of Prague,† who studied the oscillating and creeping movements of the Oscillaria, found that in direct sunshine the movement of these confervoid Algæ were more lively than in diffused day-light, while if subjected to darkness they gradually lost their motile powers. The relations of chlorophyll to light, the sleep of plants, and the phenomenon of heliotropism readily suggest themselves, even though we do not ignore the fact that the bacteria themselves belong to a group of plants devoid of chlorophyll. It has been poetically, and surely we may add truthfully said that the plants and trees of our time are the incorporate sunbeams of to-day, and that coal contains the sunshine of long past epochs, divided from the present by millions of years., (Semper's Natural Conditions of Existence as they affect Amimal Life, p. 70.)

"This note will have attained its object if it should induce any who may not already have done so, to study the Report of Frankland and Ward on the present state of our knowledge concerning the bacteriology of water, with special reference to the vitality of pathogenic Schizomycetes. A perusal of that Report will put you in possession of some of the principal facts which have been ascertained during the last few years in support of the germ theory of disease—a theory of which, as of the great Doctrine of Evolution, it may aptly be said 'It has been laughed at, written at, talked at, shrieked at. That it has been understood is not so apparent."

* Mr. Simmons here read an extract which will be found at p. 199 of Dr. Woodhead's book.

† Wolle's Fresh Water Algæ, p. 308.

Mr. Osmond proposed a vote of thanks to Mr. Simmons for the interesting aad instructive paper he had brought before the Society, Dr. Mildred Staley made some enquiries as to the development of bacilli under the influence of diffused light, and called attention to the omission from the paper just read of any reference to the effect of high temperature on the bacteria. Mr. Simmons said experiments had proved that fully developed bacilli were less resistant to high temperatures than their spores; and he read one or two extracts from Dr. Woodhead's work on the influence of high temperatures on the bacilli of typhoid and glanders. Mr. Holland referred to the employment of coloured and darkened bottles and rooms for bacteria-culture. He also described some of the methods employed by Prof. Frankland for collecting bacteria on the roof of the Science Schools at S. Kensington, and in the underground railway. Tyndall's and Dallinger's experiments were referred to in answer to Dr. Staley's question as to the effect of high temperatures on the bacteria.

Current Medical Literature.

NOTES OF TWO CASES OF OSTEOTOMY FOR BADLY UNITED FRACTURE OF THE FEMUR.

Dr, W. K. Hatch read the following paper before the Grant College Medical Society.

He had one of the patients brought before the Society for illustration.

The operation of Osteotomy for Genu Valgum and other deformities, has been a recognised one for many years in Europe, but our opportunities for operations of this sort in Bombay are very much less frequent. It is true that I have seen some cases, both of rickety tibias and of genu valgum, which would have been very suitable for operation, but in none of them would the patient consent to operative interference, and the percentage of these cases is small when compared with that of any large hospital of a European town, which I attribute, in great measure, to the fact that the poor of Bombay are able, owing to the climate, to enjoy much more sun and air than the denizens of the closely shut-in houses and courts found too frequently in all the localities inhabited by the poor. Consequently with the exception of one case of club foot in which I operated, my only two osteotomies were performed for badly united fracture of the femur. The *modus operandi* is as follows:—the patient being chloroformed, the limb to be operated on is placed in a firm sand bag and an incision 1-2 inches parallel with the limb is made down to the bone and the osteotome is then inserted at right angles to the incision through the soft parts and firmly pressed against the bone; it is then steadied with the left hand and struck with a heavy wooden hammer until it has passed well into the osseous substance. Sometimes the section can be thus completed; but usually a thinner instrument has to be used to complete it. This may be done, two or three times as required, to make the section of the whole

bone complete, the chisel being removed on each occasion by a to-and-fro side movement of the left hand so as to avoid any levering which might split the bone in its long direction; the wound is then well washed and closed. Finding the hospital instruments in the first case too large and blunt, I used an ordinary carpenter's chisel in the second case and also in the club foot case. I have used it, also, for enlarging the cloaca in bone when operating in cases of necrosis and I find it cuts through the bone much more readily.

The first case I operated on was that of an adult Mussulman sailor, of about 30 years of age, who fell from the mast of a ship, on the deck, fracturing his left thigh. He was put up in a long splint first, but what with the frequent removals of the splint and its too early abandonment altogether, his limb became united with a great amount of deformity. I could not find out exactly how long ago the accident had happened, but from the appearance of the limb I think union must have taken place a month before coming to hospital, and the fracture probably three months before. On admission—The patient was a young man, in a well nourished condition; the upper part of the left thigh was much enlarged and was much curved outwards; no eversion of the foot, but shortening to the extent of 4½ inches was present. No crepitus could be felt or any dislocation made out. The enlargement of the thigh felt hard and bony, and was not at all painful. The patient could not use his limb at all and begged to have something done, otherwise he would not be able to earn his livelihood. After trying extension by weight, I found no improvement of any kind and accordingly operated as above described. I made a rather long incision, 3 inches long, to find out if possible, the direction of the original fracture, and placed it directly over the most prominent part on the outer surface at the junction of the upper and middle third. On reaching the mass of callus I could not find any trace of the line of fracture, there being such a quantity of that material thrown out around the bone. I therefore divided the femur obliquely from without inwards, and above downwards, as being likely to allow of the greatest extent of extension. The callus bled very freely, much more freely than I liked, and it was necessary to insert the chisel four times in different directions before I was satisfied that the bone was properly divided; this done, I extended the limb and found that I could make it nearly the same length as the sound one. I washed the part well with very hot water, closed the wound after having inserted a drainage tube and after having packed the part all round firmly into dry dressing at once put the limb in a Liston's long splint, securing it by means of a plaster of Paris bandage. For the first 3 or 4 days he complained much of pain and tightness of the bandages and as there was a good deal of oozing of blood I began to fear that I should have to take off everything, but considering the thickness of the dressing I had applied I determined to hold on a little longer. The operation was performed on the 27th May and up to the 5th of June the patient was very sullen and troublesome. No doubt he had been so on the first occasion and thus caused the mal-union of the bone but on this occasion I gave him opium and insisted on his keeping quiet, so that after the 7th he decided being quiet as if it were evidently *nasib*. The result was that when I removed the splint on the 28th of June I found the wound and bone united firmly, only there was a good deal of blood which had dried perfectly. I therefore took off the splint, took out the tube and sutures, but in order to prevent deformity by muscular action should the callus be soft at any part I put on plaster of Paris bandage and made him go about on crutches. I kept this on for another month and then removed it finding all strong and only ½ inch shortening. I exhibited the patient at one of our meetings. After this I had to treat him for anchylosis of the knee the result of its having been kept stiff under treatment for the two fractures and discharged him in October, able to walk fairly well, though the thigh had not regained its proper size owing to muscular atrophy. The callus mass was much less prominent than before, but at the outer side a little tender. I was very well satisfied with the result.

The second patient, a boy of about 9 or 10, was brought to the hospital on the 15th November, with a fracture of the left Femur, at about or rather above its middle. He had been put up in a long splint but his father insisted on taking the boy away and did not pay us any subsequent visit. However, the Magistrate of the Girgaum Police Court sent him back to hospital as he was a good deal deformed and after some persuasion we succeeded in getting the consent of the father to try and improve the limb. When first admitted in November the limb was one inch shorter than the other and the fracture had been caused by a cart passing over the thigh; but on the 15th December there was not only three inches shortening but much angular deformity. I could not move the seat of fracture but as callus was abundant and probably still not very hard I thought it better to operate at once. The patient was accordingly chloroformed on the 17th December and a small incision made over the most prominent part of the callus. On cutting down to the bone it was found that the line of fracture was still recognizable. I inserted the chisel and divided the bone in an oblique direction; as expected, the callus was soft and the small chisel travelled through it without much difficulty; it required to be divided by three different applications before the bone was completely cut. Movement was then free and extension brought the limb to good position; there was very slight bleeding and no drainage tube was put in, before closing the wound with suture. Thick pads of cotton were applied, and the limb was put in a long splint and plaster of Paris bandage. The boy kept very quiet and gave no trouble; had no pain or anything to complain of. I did not remove the splint until February 6th, when I found all healed without any discharge beyond a little dried blood. I removed the sutures. As the callus felt firm I did not think it necessary to apply a plaster splint, but commenced to rub the knee gently as it was stiff. This has been done since with gradual improvement of the

joint and I think you will agree in considering the limb in every way likely to be a useful and sound one.

As I remarked at the beginning of this paper, deformities suitable for Osteotomy do not often come to the hospital; but I hope some of those present who, in the position of family medical advisers may know of such cases, will kindly bear in mind our anxiety to make further advancement in this line; and by enabling poor crippled children to move about and grow up with useful limbs, patients will be likely to have increased confidence in our surgical art.—*Trans. G. C. Medl. Society, Bombay.*

THE TREATMENT OF RHEUMATOID ARTHRITIS.

THERE is a growing conviction, which amounts to a feeling of certainty among many physicians, that rheumatoid arthritis, or rheumatic gout, is not a form of rheumatism or gout at all, but is a neuro-trophic disturbance. Dr. John Kent Spencer, who takes this view of the disease, has been writing upon its symptoms and treatment in *The Practitioner*. What he says deserves much consideration, and may be of help to some of our readers. For there is surely no more obstinate and intractable affection than chronic rheumatoid arthritis when it has once firmly secured a foot-hold. Dr. Spencer is earnest in urging the importance of recognizing early the nature of the disease. It is almost regarded and treated at first as a form of rheumatism. When baths, salicylates, and other anti-rheumatics are given and strict diet is ordered, yet these measures invariably deplete the patient and do harm. It is in the early stages that visits to mineral springs and baths do good, yet often such remedies are reserved as a last resort. At this time, however, they are of little avail.

According to Dr. Spencer, the patient should be put upon a highly nutritious diet, including fats and carbohydrates. Cod-liver oil should be administered, and rich wines may be drank. Dr. Duckworth recommends foods containing sulphur, such as onions, mustard, and cruciferous vegetables. The climate should be dry and sunny, and the patient should be treated as regards this point much as though he were a consumptive. Yet, a comfortable home is better than many popular resorts.

As regards medicine, Dr. Spencer says: "Iron and arsenic are almost always useful; and quinine may be combined with either. A mixture is made agreeable by the addition of glycerine and spirits of chloroform; or the medicines may be given in the effervescing form. One dose daily may be taken for a year or more, unless interrupted by casual illness. Eight grains of the iodide of iron pill go well with one-twelfth of a grain of arseniate of sodium; and this, in the shape of two pills, should be continued once a day for many months. Iodine and the iodides are unsuitable in any other form, except for those patients in whom there is a manifest enlargement of the thyroid gland. This is a more common accompaniment of rheumatoid arthritis than is generally supposed. Fifteen minims of the tincture of iodine with five minims of the *liquor arsenicalis* and chloroform water ought to be taken daily and continuously, if the specific effect of iodine be desired."

A hypnotic or anodyne, such as chloralamide, may occasionally be required. For pyrexial accidents salicin and the salicylates are the proper medicines; but under no other circumstances ought they to be ever thought of. Gentle aperients are often necessary. Much stress is laid upon local treatment, though it is not in the long run the most important.

"Wrap any joint," says Dr. Spencer, "which can be easily reached with cambric or flannel, and over this, sponge water as hot as can be borne. Rub the joint once a week or so with acetic turpentine liniment, and then with some bland oil to prevent the counter-irritation from being too severe. If a cantharides blister be applied, it should be always on the cardiac side of a joint, and let the blistered surface be healed immediately. Paint rings of iodine liniment in the same situation. In the earliest stages (especially if there be pain and fatigue), keep the threatened joint at rest by one or more millboard splints, gauze tissue, and a light linen bandage. Do not let the joint have too much rest; on no account pack it up so that it may lapse into idle atrophy. People suffering from early arthritic lesions in the lower limbs should be equipped with laced knee-caps and flannel bandages on the legs. The upper limb may be supported with a hand-and-arm wooden splint, properly padded; gummed paper splints put on the front of the fingers keep them straight and out of danger. After active symptoms subside, systematic exercise of the affected parts should be enjoined. Vapor and Turkish baths are harmful."—*N. Y. Medical Record.*

CREASOTE AND ITS ELEMENTS.

Dr. E. Main (*Bulletin Générale de Thérapeutique*, 1892, liv. 100, p. 205) has made a laboratory study of this remedy, which has of late attracted so much attention. He established the fact that the elements of creasote were poisonous in the following order; (1) para-cresylol (least); (2) phlorol; (3) guaiacol; (4) creasote; (5) creasol (most). Locally, creasol was the most irritant, guaiacol the least. For all these elements this laboratory work shows three important characteristics; (1) that they are feebly poisonous; (2) a tolerance can be established; (3) they are eliminated by the lungs. As remedies against tuberculosis they can be arranged in the following order: (1 and 2) phlorol and creasol; (3) para-cresylol; (4) guaiacol; (5) creasote (most powerful).

It is believed that although all the elements of creasote have some value, and indeed guaiacol should be especially mentioned, yet creasote is the most active. Beechwood creasote should be preferred for its antiseptic power, for its feeble toxicity, and because of the results furnished by experimental therapeutics as well as by clinical observation.—*Med. and Surg. Reporter.*

VITAL STATISTICS.

STATIONS.	Population,	Period.	DEATHS.								Ratio of deaths per mille.	BIRTHS.	Ratio of births per mille.
			Cholera.	Small-Pox.	Measles.	Fevers.	Bowel Complaints.	Injuries and accidents.	Other Causes.	Total.			
Calcutta ...	681,560	Week ending 25th March 1893	8	1	...	90	40	...	120	259	19·8	...	...
,, ...	,,	1st April ,,	21	3	...	119	35	...	133	311	23·8	...	...
,, ...	...	8th ,, ,,	11	1	...	98	27	...	154	291	22·2	...	...
Bombay ...	821,764	28th Feb. 1893.	...	3	...	100	29	...	269	401	25·37	...	...
	,,	7th March ,,	...	8	...	98	35	...	306	447	28·28	...	...
	,,	14th ,, ,,	...	6	...	124	22	...	277	429	27·14	...	...
Madras ...	452,518	24th March 1893	...	...	43	112	58	...	156	369	42·4	341	39·1
		31st ,, ,,	...	...	47	92	34	...	130	303	34·8	257	29·5
		7th April ,,	...	...	21	123	36	...	164	354	40·6	335	38·4
Delhi ...	...	March ,,	...	...	...	237	17	4	142	400	...	551	...
Rangoon ...	...	24th March 1893	1	...	...	53	8	...	84	146	42·10	...	...
	...	31st ,, ,,	3	...	...	43	12	...	74	132	38·06	...	...
	...	7th April ,,	...	3	1	33	7	4	64	112	32·29	...	...
Naini Tal ...	362,248	January ,,	...	3	...	1064	39	12	14	1,132	3·12	833	2·30
Moradabad ...	1,179,398	,, ,,	1	6	...	2724	86	12	266	3,095	2·62	4,975	4·22
Bareilley ...	1,040,691	,, ,,	...	22	...	1785	125	25	58	2,015	1·94	4,241	4·07
Saharanpore ...	1,001,280	,, ,,	...	...	...	2201	79	11	31	2,322	2·32	3,473	3·47
Meerut ...	1,391,458	,, ,,	...	...	...	3101	28	15	17	3,161	2·27	4,494	3·23
Agra ...	1,003,796	,, ,,	...	...	...	1147	139	23	397	1,703	1·69	2,935	2·92
Sitapur ...	1,075,413	,, ,,	...	2	...	1565	16	22	91	1,696	1·56	3,480	3·24
Cawnpore ...	1,209,695	,, ,,	...	...	...	1748	20	29	464	2,261	1·87	2,201	2·81
Allahabad ...	1,548,737	,, ,,	...	15	...	2172	26	31	352	2,596	1·68	4,417	2·85
Fyzabad ...	1,216,959	,, ,,	3	2	...	1643	49	34	351	2,082	1·71	3,880	3·19
Goruckpore ...	2,994,057	,, ,,	...	58	...	2372	285	75	1,744	4,534	1·51	8,833	2·95
Benares ...	921,943	,, ,,	...	7	...	1347	57	38	306	1,755	1·90	2,628	2·85

Medical News and Comments.

MANUFACTURE OF SULPHATE OF CINCHONIDINE.—Discussing the relative advantages of sulphate of cinchonidine and cinchona febrifuge, the Government of India, in a letter addressed to the Bengal Government, suggested that before attempts to manufacture the former drug on the Government plantations were finally abandoned, the impossibility of preparing cinchonidine at a reasonable price should be fully demonstrated. Brigade-Surgeon Lieutenant-Colonel G. King now reports that a process, which has been under trial for some time, and which seems more hopeful than any other, is to treat the precipitate from the mother liquors with sulphuric acid and rochelle salt, by which means the quinine and cinchonidine are converted into tartrates, and the cinchonine and amorphous alkaloids are left behind. The tartrates thus obtained are treated with a weak solution of caustic soda, and the quinine is then separated by adding oxalic acid, the residue (combined with sulphuric acid) forming sulphate of cinchonidine. He is not without hope that some modification of this process may yet be found which may be profitably worked; but hitherto it has not proved a success. He is, however, of opinion that, instead of trying to make cinchonidine sulphate at Mungpoo, it would be more economical, and quite practicable, to crystallise as sulphates the whole of the crystallisable alkaloids which are contained in the precipitates which are obtained during the present process of making both quinine and cinchona ferbifuge. An alternative and still cheaper plan would be to convert the quinine and cinchonidine into tartrates without attempting to separate them from each other and to issue the product as a mixed tartrate of quinine and cinchonidine. One objection to this drug is, however, that it would be less soluble than either sulphate of quinine or cinchonidine.

THE PROPOSED LEPER ASYLUM IN MANICKTOLLAH.—A largely attended meeting of rate-payers of Manicktollah was held a few weeks ago to protest against the location of a Leper Asylum in that Municipality. Three resolutions were submitted and carried unanimously. The first was to the effect that in the present state of the drainage system a Leper Asylum would be a source of imminent danger to the inhabitants of Manicktollah. The second adopted the memorial on the subject already submitted to His Honour the Lieutenant-Governor, and the third was that a deputation should wait upon the Lieutenant-Governor and represent the objections to the proposal. The Sanitary Commissioner of Bengal has issued a Report in which he states that as "a protector of the interests of the mofussil Municipalities," he has the strongest objection to the proposal, not only on account of the unfairness of planting an institution of this kind in the midst of the inhabitants against their will, but because of the poorness of the Municipality, which is scarcely able to pay for its own necessary requirements, and, therefore, would find it exceedingly difficult to afford the high degree of sanitation which would be insisted upon by the Asylum authorities. He suggests that a suitable site could be found in the thinly populated portion of ward 19 or 20 of the Calcutta Municipality, and points out that if this suggestion were acted upon it would avoid the amendment of the law which would be necessary to enable the Calcutta Municipality to contribute towards the maintenance of an Asylum outside its limits.

EUROPEANS AND THE TROPICS.—In his powerful book on *National Life and Character*, Mr. Pearson takes a very dark view of the future of mankind, and one of the grounds of his pessimism is that few tropical regions can ever be made habitable for European races. It happens, says the *Daily Graphic*, that this subject is discussed in a paper which Professor Reyer, of Vienna, has just contributed to the *Archiv fur Hygiene*, and it is worth noting that his conclusion is the opposite of that at which Mr. Pearson has arrived. The most serious evils with which Europeans have to contend in the tropics are malaria and high temperature. With regard to the latter, Professor Reyer holds that its bad effects might be greatly mitigated by the supply of cool air to private dwellings from central cooling stations, and that such stations could be established at a very small cost. As for malaria, he suggests that in houses the conditions favourable to it might be removed by a system of filtration which would clear the air of injurious micro-organisms. Workmen living in rooms thus provided with filtered air might, he thinks, soon reclaim extensive districts, and make them healthy, by erecting dams in the neighbourhood of rivers, and pumping away the water of marshlands by the methods which have long been in use in Holland.

SEVERAL changes are taking place among Lady doctors in hospitals under the Dufferin Fund. Miss Hannan, Ulwar, is granted six months' sick leave, and Miss Mackenzie recently officiating in charge of the Begum's Hospital at Bhopal, will act for her. Misses Pratt and Blong, newly passed students from the Calcutta Medical College, have been appointed Assistant-Surgeons at the Lady Lyall Hospital, Agra, aud the Lady Aitchison Hospital Lahore; the former succeeding Miss Wells, who replaces Miss Bourchier in charge of the Victoria Hospital at Madras.

Dr. Haffkine is now inoculating persons for Cholera at Agra at the rate of fifty a day. The operations are performed in the bungalow of Mr. E. B. Hankin, Chemical Examiner to the N. W. P. Government.

BLUE-GUM OIL.—The Government Quinologist has addressed the Local Government, strongly recommending that all the blue-gum oil required for the Medical Store Depart-

ment may be obained from Mr. S. G. Wallace's Drug Manufactory, Nilgiris. Eucalyptus globulus oil manufactured by Mr. S. G. Wallace has been reported to be absolutely pure, being identical with that made in the Government Gardens in its specific gravity and optical properties. Mr. Wallace has recently started a laboratory for the manufacture of several drugs. He is said to be an expert and deserves that encouragement that can be given him by Government. As may be seen from the Annual Reports of the Botanical Gardens for many years back, it has been the object of Government to induce private persons to take up the manufacture of blue-gum oil on a large scale, and it is gratifying to see that this is being at last accomplised. The price of blue-gum oil sold to the Medical Store Department by the Government Gardens has, it is observed, fluctuated enormously since 1887. Mr. Wallace's offer to deliver it at Rs. 2-8-0 per pound free of all charges in Madras may therefore be deemed reasonable.

MISS FLORENCE WELLS, L. R. C. P. and S. of Edinburgh and Glasgow, daughter of Dr. S. Wells, has been appointed as Superintendent of the Victoria Caste and Gosha Hospital which she will take up early in April. Miss Wells besides being a Licentiate of the Royal College of Physicians aud Surgeons of Edinburgh and Glasgow is a Licentiate of Medicine and Surgery of the Madras University, and the winner of the Baharavity Lakshimi Gold Medal for special attainments in midwifery. She is at present doing duty as House Surgeon of Lady Lyall's Hospital, Agra, where she commands a fairly good private practice, especially among the Indians of that place. We hope that Miss Wells who is acquainted with the Vernaculars, will be just as successful among the natives of Madras and in time will be able to command a good private practice among them.

"BRANDY AND SODA."—We are constantly, writes the *Lancet*, hearing from France that brandy is enormously adulterated; it has even been said to be doubtful whether real genuine cognac, except at fabulous prices, is obtainable. But when the public learn that soda-water rarely contains soda they will probably be desirous to know what the composition of the once popular 'brandy-and-soda' really is. In a case recently reported in a contemporary two licensed victuallers charged under the Food Act, section 6, with selling soda-water which contained no bicarbonate of soda. After the hearing of considerable evidence the Bench decided that the Act was infringed, and the defendants were fined 10 shillings each. On application of defendants' counsel to the Bench to state a case for appeal it was granted 'by all means.' We must therefore abstain, of course, from commenting upon the points at issue, which turned mainly on whether it is generally understood that the term 'soda-water' implies merely water impregnated with carbonic acid gas or the same water containing a definite proportion of bicarbonate of soda. Meanwhile the final decision will be awaited with great interest by the mineral water trade. In the same issue of the paper referred to there is, oddly enough, a paragraph devoted to the adulteration of French brandy in which it is stated that nine-tenths of the ordinary 'brandy' sold by retailers as *eau-de-vie* is greatly adulterated. It is proposed that the State should take over the monopoly of spirits. By so doing it is pointed out the budget would be benefitted to the extent of a *milliard*, whilst the public health would no longer be endangered by the effects of spirits which are adulterated in a most deplorable manner by private individuals. Meanwhile we are sure the profession will counsel their patients to abstain from promiscuous indulgence in "brandies-and sodas" of any sort. Even though they be of undoubted genuineness they are none the less undoubted sources of danger to health.

Government Medical Notifications.

GAZETTE OF INDIA.

No. 133.—Surgeon-Colonel J. G. Pilcher, Administrative Medical Officer and Sanitary Commissioner, Central Provinces, is appointed to officiate as Inspector General of Civil Hospitals, Bengal, with effect from the 4th February, 1893, during the absence on leave of Surgeon-Colonel A. H. Hilson, or until further orders.

No. 126.—The services of Surgeon-Captain R. C. Macwatt, M.B., I.M.S., Bengal Establishmant, Medical Officer, 6th Bengal Infantry, are placed at the disposal of the Chief Commissioner of the Central Provinces for employment on probation as Superintendent of the Central Jail at Raipur.

No. 418-*G.*—Surgeon-Major G. M, J. Giles, M.B., F.R.C.S., Indian Medical Service (Bengal), Medical Officer of the Lawrence Military Asylum at Sanawar, is appointed to be Residency Surgeon in the Persian Gulf, substantive *pro-tempore*, with effect from the 7th February, 1893, *vice* Surgeon-Captain A. L. Duke and until further orders.

No. 1102-*P.*—Surgeon-Lieutenant-Colonel J. Scully (Bengal Establishment), Assay Master, Calcutta, is granted privilege leave for three months, with effect from the 23rd March, 1893.

Surgeon-Major H. P. Yeld (Bengal Establishment), Deputy Assay Master, Bombay, is appointed to officiate as Assay Master, Calcutta.

Surgeon-Captain A Milne, M.B. (Bombay Establishment), Deputy Assay Master, Calcutta, is appointed to officiate as Assay Master, Calcutta, until relieved by Surgeon-Major H. P. Yeld.

Surgeon-Major F. F. MacCartie, M.B. (Bombay Establishment), whose services have been placed at the disposal of this Department. is appointed to officiate as Deputy Assay Master, Bombay, *vice* Surgeon-Major H. P. Yeld.

No. 235.—Surgeon-Lientenant H. M. Earle, Indian Medical Service, Bengal Establishment, to be Medical Officer, Lawrence Military Asylum, Sanawar, sub. *pro tem., vice* Surgeon-Major G. M. J. Giles, M.B., F.R.C.S., who vacates that appointment. Dated 11th January, 1893.

Surgeon-Captain C. C, Manifold, 23rd Bengal Infantry (p.a.) for five days.

No. 246.—Surgeon-Lieutenant H. M. Earle, in medical charge, Lawrence Military Asylum, Sanawar, is granted leave in India (p. a.) for 30 days, under the Leave Rules for the Staff Corps.

No. 253.—Surgeon-Colonel Archibald Hamilton Hilson, M.D., Inspector-General of Civil Hospitals, Bengal, is permitted to retire from the service, with effect from the 1st April 1893, subject to Her Majesty's approval.

No. 254.—Surgeon-Lieutenant-Colonel, Alexander MacGregor, 8th Bengal Cavalry, has been permitted by the Secretary of State for India to retire from the service, with effect from the 11th April, 1893, subject to Her Majesty's approval.

The Queen has approved of the following admissions to Her Majesty's Indian Medical Service :—

To be Surgeon-Lieutenants. Dated 30th January, 1893. (Bengal) Charles Milne. Vivian Godfrey Drake-Brockman. William Young. John Joseph Bourk. George Yeates Cobb Hunter. Bernard Robert Chatterton. Cedric Barkley Prall. Charles Edward Williams. John Norman MacLeod. Walter Holland Ogilvie. Thomas Alfred Ollivant Langston. Richard Heard. Edgar Rowe Parry. Walter Hood Orr. Paxton St. More. George Bidie, John Plowden Morton.

No. 917-*G.*—Surgeon-Captain J. Chaytor White, M.B., Indian Medical Service (Bengal), officiating Medical Officer of the Meywar Bhil Crops, is granted 90 days' privilege leave, with effect from the 15th April, 1893, from such subsequent date as he may avail himself of the same.

Surgeon-Captain E, Hudson, 15th Bengal Lancers, for one year. Pension service—7th year commenced 22nd September 1892.

No. 182.—Surgeon-Lieutenant-Colonel A. Crombie, M.D., Surgeon Superintendent of the Presidency General Hospital, Calcutta, has obtained special leave for six months on private affairs, with effect from the date of relinquishing charge of his duties.

No. 183.—Surgeon-Major S. H. Browne, M.D., Principal of the Lahore Medical College, is appointed to officiate as Surgeon Superintendent, Presidency General Hospital, Calcutta, during the absence on special leave of Surgeon-Lieutenant-Colonel A. Crombie, or until further orders.

No. 619-*G.*—Surgeon-Captain T. W. Shaw, M.B., Indian Medical Service (Bombay), is re-appointed to officiate as Medical Officer of the 1st Regiment, Central India Horse, and of the Goona Political Agency, with effect from the date of assuming charge, and during the absence of Surgeon-Major C. G. W. Lowdell, Indian Medical Service (Bombay), whose services are replaced temporarily at the disposal of the Military Department, or until further orders.

No. 319.—Surgeon Major C. H. Beatson, Indian Medical Service, Bengal Establishment, 10th Bengal Lancers, to officiate as Secretary to the Principal Medical Officer, Her Majesty's Forces in India, with effect from the 4th April to the 13th May 1893, *vice* Surgeon-Lieutenant-Colonel E. R. Johnson, Indian Medical Service, on furlough.

No. 420.—Surgeon-Major C. H. Beatson, Indian Medical Service, Bengal Establishment, 10th Bengal Lancers, to be Secretary to the Principal Medical Officer, Her Majesty's Forces in India, sub. *pro tem.*, with effect from the 14th May 1893, *vice* Surgeon-Lieutenant-Colonel E. R. Johnson, whose tenure of appointment expires on that date.

No. 323.—Surgeon-Captain J. T. Daly, M.B., is granted an extension of leave till the 10th November 1892.

No. 324.—The following promotions are made, subject to Her Majesty's approval :

Surgeon-Majors who have completed twenty year's full pay service to be Surgeon-Lieutenant-Colonels—Dated 1st April, 1893. David Wilkie, M.B., Denis Peter Macdonald M.D. Oswald Baker. Frederick William Wright, D.S.O., M.B.

Surgeon-Captains who have completed twelve years' full pay service to be Surgeon-Majors—Dated 2nd April, 1893. Frederick Daly Cæsar Hawkins. John Adams Cunningham, M.D. Harry Chalmers Hudson. Alexander Silcock, M.B. Patrick Mullane, M.D. John William Rodgers. James Farquharson Maclaren, M.B.

Brigade-Surgeon-Lieutenant-Colonel George Thomson, M.B., with effect from the 1st April 1893, *vice* Surgeon-Colonel A. H. Hilson, retired.

No. 3.—First Grade Assistant Apothecary W. Clarke is appointed to the Sub-Medical charge of the Lawrence Military Asylum, Murree, *vice* First Grade Assistant Apothecary G. Hynes, whose tour of service has expired, with effect from the afternoon of the 13th October, 1892.

No. 367—373-*II.*—With reference to Foreign Department Notification No. 329-G., dated the 4th March, 1893, Surgeon-Major D. Ffrench Mullen, M. D., Indian Medical Service, Bengal, received charge of the offices of Civil Surgeou, Ajmere, Superintendent of Jail; Ajmere, and Medical Officer of the Merwara Battalion, from Surgeon-Major P. D. Pank, Indian Medical Service, Bengal, on the forenoon of the 24th idem.

No. 1118-*G*,—Third class Hospital Assistant Phillip Holder, of the Government Reserve List, was permitted to resign his appoinment with effect from the 1st February, 1893.

No. 1119-*G*—Hospital Assistant Sakharam Vaman Ranade and Ram Sanehi were appointed Third class Hospital Assistants for Government service and placed on the Native States Reserve List, with effect from the 6th February, and 20th March, 1893, respectively.

No. 1120-*G.*—Second class Hospital Assistant Devi Lall, attached to the Raj Dispensary at Bandikui, was granted two month's privilege leave from the forenoon of 11th December, 1893, and Third class Hospital Assistant Theophilus Rimmel was appointed to officiate for him.

No. 1121-*G.*—Third class Hospital Assistant Batook Nath Misra, attached to the Hewson General Hospital at Jodhpore, was granted two months' privilege leave from 16th December, 1892, to 15th February, 1893.

No. 1122-*G.*—Third class Hospital Assistant Rama Prasada Banerji, attached to the Northern India Salt Revenue Dispensary at Pachbadra, was granted one mouth's privilege leave from 24th January, to 23rd February, 1893, and Third class Hospital Assistant Allimullah was appointed to act for him during his absencc.

No. 1123-*G.*—Third class Hospital Assistant Brij Bashi Lall, attached to the Abu Road Charitable Dispensary, was granted leave without pay for one month from 1st to 28th February, 1893.

ASSAM GAZETTE,

No. 39.—Babu Nisi Kanta Bhattacharji, a passed student of the Dacca School of Medicine, is appointed on probation for six months as a Third-grade Civil Hospital Assistant in Assam, and posted to Silchar for duty as a Supernumerary.

No. 3457J.—The services of Surgeon-Captain H. B. Melville, I.M.S., Civil Surgeon, North Lushai Hills, are placed at the disposal of the Government of India, Home Department, with effect from the date on which he is relieved at his duties.

No. 40.—Privilege leave of absence for fifteen days, under article 291 of the Civil Service Regulations, was granted to Third-grade Hospital Assistant Chandra Kisor Sen from the 26th October 1892 to the 9th November 1892, both days inclusive.

No. 41.—Third-grade Hospital Assistant Jogendra Nath Nayak is, on the expiry of his sick leave, posted for duty as a Supernumerary Hospital Assistant at Gauhati in the Kamrup district.

No. 42.—Third grade Hospital Assistant Chandra Nath Chanda is, on the expiry of his leave, appointed to the medical charge of the Laur Dispensary in the Sylhet district.

No. 43.—Third-grade Hospital Assistant Afzal Husain, in medical charge of the Laur Dispensary in the Sylhet district, is. on relief, transferred to the Darrang district, and appointed to the medical charge of the Domnichowki in that district, *vice* Third-grade Hospital Assistant Upendra Chandra Chatterji.

No. 44.—Privilege leave of absence for three months under article 291 of the Civil Service Regulations, is granted to Third-grade Hospital Assistant Nisi Kanta Das, in medical charge of the Lalbura Military Police outpost in North Lushai.

No. 45.—Third-grade Hospital Assistant Muhammad Salim, a Supernumerary at Silchar, is transferred to North Lushi, and appointed to the medical charge of the Lalbura Military Police outpost during the absence on privilege leave of Hospital Assistant Nisi Kanta Das, or further orders.

No. 46.—The undermentioned Hospital Assistants have passed the English Qualification Examination according to the test laid down in G. G. O. No. 945, dated the 11th October 1868:

Rank and name.	Date of rank.	Date of passing the English Qualification Examination.
1. First-grade Hospital Assistat Shumshere Ali.	15th April 1862.	3rd April 1893.
2. Third-grade Hospital Assistant Kali Mohan Sen (2nd).	10th June 1892.	21st Mar. 1893.

No. 47.—ERRATUM.—In Medical Department Notification No. 35, dated the 23rd March 1893, published in the *Assam Gesette* of the 25th idem, *for* "Ghahi" *read* "Barjaha."

No. 48.—Third-grade Hospital Assistant Mothura Nath Mazumdar, in the temporary medical charge of the Mangaldai Dispensary, was employed as Supernumerary Hospital Assistant in the Darrang district from the 16th to the 22nd January 1893.

No. 49.—Privilege leave of absence for three months, under article 291 of the Civil service Regulations, is granted to Second-grade Hospital Assistant Pratab Chandra Bose, in charge of the Animal Vaccine Depot, Shillong, with effect from the date he is relieved of his duties.

No. 50.—Third-grade Hospital Assistant Chandra Kisor Sen (2nd), a Supernumerary at Shillong, is appointed to the charge of the Animal Vaccine Depot at Shillong during the absence on privilege leave of Hospital Assistant Pratab Chandra Bose, or until further orders.

No. 51.—Second-grade Hospital Assistant Ram Charn Panday, in medical charge of the Barpeta Dispensary and Lock-up in the Kamrup district, is transferred to Tura in the Garo Hills district, and appointed to the medical charge of the Dispensary there, with the Lock-up and Police in addition to his other duties.

No. 52—Second-grade Hospital Assistant Radha Krishna Nandi, now a Supernumerary at Sylhet, is transferred to Barpeta in the Kamrup district, and appointed to the medical charge of the Dispensary there, with the Lock-up in addition to his other duties.

G. O. C. C.

18th Bengal Infantry.—Surgeon-Captain J. W. Wolfe, to the officiating medical charge of the regiment, *vice* Surgeon-Captain J. C. Vaughan.

206. Nursing Sister Kathleen Dorothea Aird is brought on the strength of the Indian Nursing Service, with effect from 16th February 1893.

207. Nursing Sister E. Broughton is permitted to resign the Indian Nursing Service, with effect from the 8th January 1893,

Surgeon-Colonel T. Maunsell, Army Medical Staff, having been appointed to the Administrative Medical Staff of the Bengal Command, to be Principal Medical Officer, Rawalpindi District, *vice* Surgeon-Colonel C. H. Y. Godwin, deceased.

212. The following Nursing Sisters are promoted to the grade of Deputy Superintendent, Indian Nursing Service:—

Isabella Ellen Stanistreet, dated 21st February 1893, *vice* E. M. Licktold, resigned,

Florence Georgina Stoney, dated 6th April 1893, *vice* M. E, M. Latch, resigned.

214. The following lady nurses, Indian Nursing Service, are granted leave to England under Article 695, Army Regulations, India, Vol, I, Part 1, (*clause 1, India Army Circulars, 1891*):—

Lady Superintendent C. G. Loch 1 year. Lady Superintendent J. E. Oxley 6 months. Lady Superintendent A. R. Betty 1 year. Deputy Superintendent L. Maxwell-Muller 1 year. Deputy Superintendent E. D. Harris 1 year. Deputy Superintendent M. E. Beresford 1 year.

215. Tne undermentioned officer has leave of absence:—

Indian Medical Service.—Surgeon-Captain J. T. Daly, M. B., on private affairs, in India, from the 4th to the 10th October 1892, under the Leave Rules for the Staff Corps, in extension of the leave out of India granted him in G. G. O. No. 725, dated the 29th July 1892.

Army Medical Staff.—Brigade Surgeon-Lieutenant-Colonel J. E. Fannin, on private affairs, pending retirement from the service.

236. The Commander-in-Chief in India is pleased to make the following appointment:—

1st Battalion 1st Gurkha Rifles.—Surgeon-Lieutenant-Colonel A. B. Seaman, from the medical charge of the 17th Bengal Infantary, to the medical charge of the battalion, *vice* Sugeon-Lieutenant-Colonel T. Robinson.

This transfer is made solely in the interests of the public service.

241. Acting 2nd grade Apothecary O. W. H. Smith is granted three months' leave in India, on medical certificate, under the Leave Rules of 1889.

242. Nursing Sister A. C. Musson is permitted to resign her appointment in the Indian Nursing Service, with effect from the 28th February 1893.

243. Miss Clara Lucy Cousins is admitted into the Indian Nursing Service as a Nursing Sister, with effect from the 3rd March 1893.

251. Surgeon-Captain E. Hudson, in medical charge of 15th Bengal Lancers, is appointed to the medical charge of the Cantonment General Hospital, Multan, from the date of his arrival at that station

To be Acting Lady Superintendents. J. M. James, *vice* C. G. Loch, on leave. D. M. More, *vice* A. R. Betty, on leave. A. M. Murray, *vice* J. E. Oxley, on leave.

To be Acting Deputy Superintendents. E. L. Jardine, *vice* M. E. Beresford, on leave. M. Pearse, *vice* J. M. James, promoted. M. L. Hayes, *vice* E. D. Harris, on leave. C. L. Still, *vice* L. Maxwell-Muller, on leave. A. Bolster, *vice* D. M. Moore, promoted.

294. The Commander-in-Chief in India is pleased to make the following appointments:—

Brigade-Surgeon-Lieutenant-Colonel C. F. Churchill, M.B., Army Medical Staff, to be Principal Medical Officer, Peshawar District, *vice* Brigade-Surgeon-Lieutenant-Colonel G. Thomson, M.B., Indian Medical Service, transferred to the Civil Department in anticpation of promotion.

Brigade--Surgeon-Lieutenant-Colonel W. T. Martin, M. D., Army Medical Staff, having been appointed—in anticipation of promotion—to the Administrative Medical Staff

of the Bengal Command, to be Principal Medical Officer, Allahabad District, *vice* Surgeon-Colonel R. P. Ferguson, transferred.

6th Bengal Infantry.—Surgeon-Lieutenant C. G. Robson-Scott, to the officiating medical charge of the regiment, *vice* Surgeon-Captain R. C. Macwatt.

295. The Commander-in-Chief in India is pleased to direct the following transfers:—

Surgeon-Colonel R. P. Ferguson, Army Medical Staff, from the Allahabad District, to be Principal Medical Officer, Sirhind District, *vice* Surgeon-Colonel A. C. Gaye, transferred to the Madras Command. To travel at his own expense.

Surgeon-Colonel A. C. Gaye, Army Medical Staff, from the Sirhind District, to the Administrative Medical Staff of the Madras Command, in succession to Surgeon-Colonel J. Inkson, M D., transferred to the Home Establishment, to travel at his own expense.

BURMA GAZETTE,

No. 167.—With reference to Notification No. 78, dated the 2nd March 1893, Local Assistant Surgeon Tha Do Aung is granted an extension of 25 days' privilege leave.

No. 168.—In Notification No. 78, dated the 1st March 1893, "*for* 23rd February 1893" *read* "1st March 1893"

No. 169.—Local Assistant Surgeon Maung Thin, assumed charge of his duties at the Lunatic Asylum, Rangoon, on the forenoon of the 5th April 1893.

No. 170.—With reference to Notification No. 154, dated the 5th April 1893. Second Grade Hospital Assistant Anant Singh assumed charge at the Civil Hospital, Minbu, on the forenoon of the 27th March 1893.

No. 171.—Third Grade Hospital Assistant No. 120, Abdul Razak, relinquished charge at the Outpost Hospital, Howyon, Katha district, on the forenoon of the 3rd December 1893, and assumed medical charge of the Military Police Column, Kyauwke, Katha district, on forenoon of the 11th December 1892.

No. 172.—Third Grade Hospital Assistant No. 616, Moula Bux, relinquished medical charge of the Sikkan Column, Bhamo, on the afternoon of the 31st March 1893, and assumed charge at the Police Hospital, Bhamo, on the afternoon of the 1st Aprial 1893.

No. 173.—With reference to Notification No. 161 dated the 5th April 1893. Third Grade Hospital Assistant No. 76, Latafat Hussain, assumed charge at the Police Hospital, Ye-u, on the forenoon of the 5th April 1893.

No. 174.—Third Grade Hospital Assistant No. 80, Chunder Khisore Roy, relinquished charge at the Base Hospital, Talawgyi, Bhamo district, on the afternoon of the 30th March 1893, and assumed charge at the Police Hospital, Bhamo, on the afternoon of the April 1893.

No. 175.—Third Grade Hospital Assistant No. 151, Tatia Kandoji, relinquished charge at the Outpost Hospital, Kamaing, Mogaung subdivision, on the afternoon of the 21st February 1893, and assumed charge at the Outpost Hospital, Mogaung, on the forenoon of the 26th February 1893.

No. 176.—Under paragraph 7 of Government of India Home Department Resolution No. 16, dated the 9th January 1878, Third Grade Hospital Assistant No. 151, Tatia Kandoji, was placed in charge of the Civil Dispensary, Mogaung, as an additional duty from the forenoon of the 21st March 1893.

No. 177.—Third Grade Hospital Assistant No. 66. Abdul Wahid, on availing himself of three month's privilege leave, relinquished charge of the Civil and Jail Hospital, Shwegyin, on the afternoon of the 10th April 1893.

No. 178.—This office Notification No. 164, dated the 5th April 1893, is hereby cancelled.

Domestic Occurrences.

MARRIAGES.

HUMFREY—CARDOZO.—At the Catholic Chapel, Coonoor, on April 10th, 1893, by the Rev. Father Denys M.A., Benjamin John Henry Humfrey, Lieutenant, Indian Staff Corps, Adjutant, H. E. the Governor's Body Guard, Madras, eldest son of the late Surgeon-Major Alexander Humfrey, H. M. 98th Regiment to Eugénie Blanche, second daughter of H. O'C Cardozo, Superintendent of the Madras Revenue Survey.

WARD.—BOND.—At St. John's Church, Partabgarh, on the 10th April, by the Ven. Archdeacon Brook Deedes, Arthur William Ward, Professor of Physics and Mathematics, Canning College, Lucknow, to Annette Mary Isabel, daughter of Dr. S. Paterson Bond, Civil Surgeon of Partabgarh.

DEATHS.

EUSTACE.—At Weston-Super Mare, on March 1st, 1893. Georgina Elizabeth Lucy, wife of Dr. Eustace, late Med. Staff, and only daughter of the late Col. W. S. Stace, R. E.

SHAW.—At 27 Coleherne Road, S. W. on March 21st, 1893, Mary Louisa, wife of Surgeon Lieutenant-Colonel C. E. M. Shaw, late A. M. S. aged 48.

Acknowledgments.

ANSWERS TO CORRESPONDENTS.

Dr. Ghosal.—Your papers will be inserted in a future issue.

Dr. T. M. Shah.—Many thanks for your paper.

Dr. Sandel.—No space in this issue.

Warrant Medical Officer.—Don't be in a hurry, you may be sorry for taking any rash step.

Medical Practitioner, Calcutta.—Declined with thanks. We object to any thing personal in our columns.

Dr. Lennox Moore, London.—We regret we could not find space for your paper in this issue.

H. W. Foscholo, Station Hospital, Calcutta.—Many thanks.

Enquirer.—We have referred the matter to the Secretary of the College, and you will hear from him direct.

Medical Officer.—We hear the appointment has been filled up.

Dr. Leonard A Bidwell.—Many thanks.

Assistant-Surgeon.—You will find full information in the pamphlet we have sent you.

Communications have also been received from the following:—

Dr. Leonard A. Bidwell, F.R.C.S., Dr. N. N. Parakh, Rangoon; Dr. S. H. D'Antra, Rangoon, Dr. J. N. Roy, Medical Practitioner, Agra; Hospital Assistant Bhugwan Dass, Quetta; Dr. Bhugwan Dass, Senior Medical Officer, Jhanjarpur; Dr. Shree Lall, Assistant Surgeon, Fazilka; Hospital Assistant Manug Thein Maung, Rangoon; Dr. Cheetun Shah, Assistant-Surgeon Ludhiana, Dr. K. Narayana Iyenger, Tumker; Dr. Lennox Moore, London; Dr. Wright, London; Dr. A. P. Dass L.M.S., Calcutta, Dr. Sandel M.B., C.M., Calcutta; Dr. N. C. Mittra M.A., M.B., Ranchee; Dr. J. C. Day, M.B., Assam, Dr. V. J. Pillai, M.B., Madras; Dr. Green

London, H. W. Foscholo S.M.D., Calcutta, Dr. R. Nugent, L.R.C.P and S.E., Kidderpore; Dr, R. N. Ghosal, L.M.S. Calcutta; Dr. Mul Chand, Assistant-Surgeon, Delhi; Dr. R. P. Banerjee, B.A., G.B.M.S.L., Pachbadra, Rajputana; Dr. T. M. Shah, State Medical Officer, Junagadh, Kathiawar; Hospital Assistant B. B. Majumdar, Rohika; Dr. R. S. Chew, M.D., Calcutta; Hospital Assistant C. A. Wesley, Shorapur, Lingsagar; Secretary, Royal College of Surgeons, London; Secretary, Royal College of Physicians, London; Dr. S. P. Sarbadhikari M.D., Calcutta; Dr. Chuckerbutty, L.M.S., Calcutta.

Periodicals.—The Lancet—The British Medical Journal—The Edinburgh Medical Journal—Indian Medical Gazette—Journal de Mèdicine de Paris—Modern Medicine—Australian Medical Journal—The Sanitary Journal—The Medical and Surgical Journal—The Medical Times and Register—The Lancet-Clinic—The Medical Bulletin—The Medical and Surgical Reporter—The New York Medical Journal—The Family Doctor—The Medical Week—Health Messenger—Health—The Medical Record—British and Colonial Druggist—Chemist and Druggist—The Medical Review—New Orleans Medical and Surgical Journal—The Medical Monthly—The Scalpel—The Humanitarian—The Popular Science Monthly—The Sanitary Record—Merck's Medical Bulletin—The Southern Medical Record.—The Sanitarian—Doctor's Weekly—The Post Graduate—The Therapist—The Universal Medical Journal—The Medical Compend—The Medico-Chirurgical Review—The Medical Fortnightly—Notes on New Remedies.

Books received.—"Rhinoplasty." Being a short description of one hundred cases, treated by Dr. T. M. Shah, L.M.S., Assistant-Surgeon and Chief Medical Officer, Junagadh State (Sarkari Press)—An Outline of the Technique of Abdominal and Pelvic Operations (A reprint). By William Easterly Ashton M.D., Philaldelphia—Regulations of the Apothecaries' Society, London.

Government Gazettes.—Gazettes of the Government of India, N. W. P. and Oudh, Burmah, and Assam—G. O. C. C., By His Excellency the Commander-in-Chief.

Newspapers.—The Home News—The Indian Daily News—The Statesman—The Eastern Guardian—The Evening Star—Newman's Bradshaw—Hope—The East—Islam—Bombay Native Opinion—Bangalore Spectator—Nagpur and Berar Times—Progress—Punjab Patriot—Arrakan News—Rangoon Gazette Weekly Budget—The Express—Madras Advertiser—Behar Herald and Indian Chronicle—Bombay Guardian—Banner of Asia—Tribune—Beluchistan Gazette—Western Wit and Wisdom—Indian Empire—Gwalior Gazette—Eurasian Recorder—People's Friend—India Watchman—Western Star—Messenger of Light—Indian Nation—Indian Union—Poona Observer—National Guardian—Indian Engineering—Courier—The Argus—The Bengal Times—Signs of the Times—The Indian Textile Journal—The Amrita Bazaar Patrika (Weekly Edition).

Notice.

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Original Articles.

THE NECESSITY OF RE-ESTABLISHING THE CONTAGIOUS DISEASES ACT.

BY SURGEON-GENERAL SIR WILLIAM MOORE, K.C.I.E., Q.H.P.

In the year 1862, owing to the large number of men in the army and navy suffering from venereal, a Committee of the House of Commons was formed for the investigation of the matter. This Committee reported: "The facts are so appalling that we feel it a duty to press on Government the necessity of at once grappling with the mass of vice, filth, and disease which surrounds the seamen's homes and the soldier's barracks, which not only crowds our hospitals with sick, but which surely, however slowly, stops the vigour of our soldiers and sailors, sows the seeds of degradation and degeneration, and causes an amount of suffering difficult to overestimate." Hence the establishment in 1864 of the Contagious Diseases Act in England, and its application to certain military and naval stations. The working of the Act was closely and jealously watched. It was favourably reported upon by a Committee of the House of Lords in 1866; by a Committee of the House of Commons in 1869; by a Royal Commission in 1870; by a Committee of the House of Commons in 1879. I will only quote from the report of the last Committee. It was found that the number of cases *per mille* admitted to hospital for primary venereal from registered districts was 91 per 1000 during the first year of the operation of the Act, but only 40 in 1877, and 35, in 1878. Other stations not under the Act gave from 68 to 101 per 1000 for 1878. The number of registered prostitutes was reduced from 2,650 in 1870, to 1,870 in 1879; while the number of cases of disease, per 100 examinations, being in 1865 as high as 76.24, had fallen in 1879 among registered females to 7.40. The Committee, after elaborately detailing the diminution of disease which had occurred, stated: "The extent to which the Acts have diminished syphilis in the subjected districts, appears of itself to establish the hygienic utility." And they further observed: "To this must be added the gain to the service derived from the increased immunity of the men from the various debilitating and incapacitating disorders, which, though not classed as venereal disease, not unfrequently result therefrom." And referring again to the towns mentioned above, it was observed: "The contrast between such towns now and years ago is as different as light from dark. . . . . Vice is no longer allowed to flaunt in the streets, and must be wilfully sought."

Yet all this and much more which might be mentioned did not prevent a section of society in England, maintaining a continuous agitation against the Contagious Diseases Act. In this buckramed England, the country of red tape, grandmotherly government, cant, and hypocrisy, miscalled the home of the free, it is really astonishing how agencies and societies, established to obtain remedies for so-called crying evils, are apt to become agencies for the benefit of those who reap incomes thereform, especially when religion and morality are asserted to be the corner stones of action. There are so many good people in this country; some of whom would hold their umbrella over a frog in a shower of rain to prevent the creature catching cold; some of whom, although talking like angels, act like men; some of whom who would spare the feelings of the drowning kitten by immersing it in hot water: some of whom, if they wanted to poison their friend, would choose the mildest drug, all of whom would cry out, "Oh my worldly friends, pursuing the phantom of pleasure through the guilty mazes of dissipation, how easy it is to be happy if you will only be good!" What a mercy it would be if people would mind their own business, instead of being virtuous on other people's behalf. Perhaps this is too much to expect, so we can only deplore the interference of the goody-goody, sanctimonious section of society with the working of the Contagious Diseases Acts, in which interference women were prominent; possibly forgetting that modesty is a handsome dish-cover, that makes us think there must be something good beneath. Some one observed "there is hardly any folly short of sin—let us be generous and make that an exception—to which a women may not be tempted, if she is once thoroughly imbued with the spirit of rivalry." Thus secretaries, societies, the *habitues* of Exeter Hall, professors of morality, bishops, and the shrieking sister-hood having entered the ranks of Anti-Contagion-Disease Act-ists; eminent politicians in opposition being occupied in demonstrating how much better they would govern the country, and eminent politicians in office being quite determined not to give the others a chance, Mr. Stanfield's Act was in 1883 slipped through the House. Hereby the House of Commons declared that they disapproved of the compulsory examination of women. It was said of Cæsar "what millions died that Cæsar might be great," and if the Acts are not re-established, Mr. Stanfield may attain to a similar unenviable distinction.

The arguments which were advanced to form public opinion on the question of the Contagious Diseases Acts were numerous, one of the principal however, being, that an outrage of morality was entailed by the recognition and protection of vice by the State. Now the advantages which resulted from the Contagious Diseases Act were, diminution of severity of disease, prevention of disease, cure of disease, social improvement by the reduction of the numbers of brothels, and the lessening of juvenile prostitution, the impossibility of young

females being practically prisoners in brothels, opportunities given to women of reformation. Now it certainly does not appear to me, that an endeavour to accomplish such desideratæ savours of immorality. Every gain in this world has some drawback, and no doubt the framers of the Contagious Diseases Act would have been glad to have adopted some better method had it been pointed out to them. But the opponents never did anything of the kind. They openly said let men and women (and their descendants) take the consequences of their doings. They said that as fear of contracting disease prevented yielding to vice, it was improper to prevent such disease; ignoring the fact that in places to which the Contagious Diseases Act has never been applied, vice is rampant, and is not lessened by fear of consequences. As a matter of fact, none but medical men know the dangers of syphilis, and what is generally known is not sufficient to act as a deterrent to vice. Even if the dangers were fully understood, most of the syphilis of soldiers and sailors is contracted when the reasoning and recollection are obscured by alcohol. Moreover, if the argument were carried to its legitimate logical conclusions, it would not be right to attempt to cure disease. On the question whether a prostitute with venereal should be treated and cured, the opponents of the Contagious Diseases Act could scarcely suggest otherwise. Although as stated above, such would be the logical conclusion of their argument. It is undoubtedly the business of the State to discourage vice and to promote social purity, but it is equally the business of the State to prevent the spread and aggravation of disease, and the Contagious Diseases Act prevented women pursuing their calling when in a state of disease. The Act was not directed against one sex for the benefit of the other, as the opponents stated, but it was directed against those of one sex who were dangerous to themselves and to the other sex. A great cry was made that examinations debased the women. But the confirmed prostitute could not suffer further debasement, her morals could not be of a lower order. It was also said, insisting on a woman, even if diseased, going into a hospital was interference with the liberty of the subject. It is easy to secure popular opinion, if anything can be made to assume the attitude of confliction with the general idea of the liberty of the subject. Hence this cry was raised on high. But no person has a right to spread a contagious disorder. The oppenents of the Contagious Diseases Act would probably be the first to object to any one going among them suffering from diphtheria, small-pox, scarlet fever, or other evident contagious disorder. Duchatalet truly observed:

"Individual liberty is a right to which prostitutes cannot pretend, they have abdicated their prerogative to it, and may be ruled by a different code of justice than that to which other members of the community are subjected." The opponents also asserted that the Act did no good. And this notwithstanding that committee of enquiry after committee of enquiry, had shown the opposite. In ninety-nine cases out of a hundred probably, syphilis results (excepting, of course, congenital syphilis) from sexual contact. If in any town a number of diseased women are prevented from disseminating disease, it follows that disease *must* be lessened. The opponents cry out that lock hospital attendance should be voluntary. But neither in India nor in England, have they, so far as I am aware, taken any steps to establish voluntary hospitals. Neither will the women voluntarily court the confinement of hospitals, but continue to ply their trade, some knowingly, others unknowingly, long after they are diseased. Perhaps the most absurd statement of the opponents is that syphilis is not the destructive malady which it has been asserted to be. This is the result of ignorance, declining to be instructed. Because syphilis, as a rule, does not quickly and directly destroy life, they refuse to believe that it does so indirectly and remotely.

In questioning patients as to their previous history, how often is it found that the first link of the chain, dragging them to the grave, is venereal? Medical men well know that disease of most internal organs has been fully traced to those degenerations and formations which result from syphilis. Mons. Ricord regarded it as "the most terrible contagion which ever threatened mankind." But telling the opponents of the Contagious Diseases Act so, was like the voice of one crying in the wilderness! There is an additional gravity attaching to venereal when it occurs in the tropics, inasmuch as it is the most fertile cause promoting endemic diseases which can exist in the human system. It is almost certain that the syphilitic-tainted individual will, in the tropics, eventually become the subject of that worst form of anæmia, consequent on a combination of the syphilitic, the so-called malarious, and perhaps the scorbutic taint. He is reduced to that condition of debility which renders him unable to withstand the slightest attack of diarrhœa or dysentery, which not unfrequently ends his earthly career. The medical history sheets of European soldiers show, with almost unvarying and painful regularity, entries such as the following:—Admitted with primary sore; secondary symptoms; ague (several times); diarrhœa; dysentery; hepatitis or hepatic abscess; invalided or died. Much of the anomalous or undefined fever European soldiers suffer from in India is rather syphilitic than true ague, and a considerable amount of the liver disease they suffer from is either purely syphilitic or greatly aggravated by syphilis. There is also a wide descending legacy of disease and degeneration affecting offspring, which gives the subject an additional element of the greatest importance. All this, however, is as nothing to the opponents of the Contagious Diseases Act. Their motto is, let all perish rather than what they erroneously consider an outrage of morality should exist. Let vice flaunt and flourish rather than reduce the penalties of wrong-doers. Now, it is true that morals have differed at different times and in different countries. I have heard it advanced that what Abraham and David did in the most open manner, can scarcely be termed a grave moral offence. And I feel quite sure that the great majority who die in the odour of sanctity do so because they were spared temptation. The opponents of the Contagious Diseases Act, however, appear to think that men are to be made moral by mandate. They appear to ignore

the indisputable proposition that men will be immoral and women also; although to the honour of the sex it may be added that women, unless so induced by actual want, are less immoral than men. Cynics may say that this results from the consequences of immorality being more frequently troublesome to the female than to the male. However this may be, the fact remains that men will be immoral. Ancient, modern, present, and even divine history prove it. Although much has been effected during recent years to improve the condition and social surroundings of soldiers and sailors, and so to promote morality among these classes, it cannot be expected by those acquainted with physiology that in any large body of men, particularly if situated as soldiers and sailors are, the sexual passion shall be kept in such perfect control that there shall be no immorality. For example: the strength of the Indian army in 1890 (that is, of the European army in India) was 69,783, of whom 2,254 were married men. Nature lays a demand on men to exercise all their physiological functions. Yet a certain section of society would impose an adverse order. But we have not yet, by the force of education and "moral suasion," reached that problematical social millennium in which morals shall overcome animal instincts. So long as human beings are constituted as they are, physiological laws and not men's laws will be obeyed by the great majority. If physiological laws cannot be followed legitimately, they will be followed illegitimately. The passions originate from physiological instincts, over the existence of which, as part of human nature, human beings have no control. Such physiological instincts must be satisfied in one way or other; or they must be repressed by force of will, aided by severe physical exercise, abstemious habits, and the high moral capacity arising from culture from childhood upwards, or from religious belief. That the classes of persons the Contagious Diseases Act protected will not repress their animal instincts—have not, indeed, had opportunities of repressing their animal instincts by the means above-mentioned—is patent to all aware of the characteristics of such classes. That such instincts can be repressed without ulterior serious consequences is a moot point on which it is not desirable to enter; the fact as advanced above, that animal instincts must be satisfied, in some manner or other, by the very great majority, being amply sufficient for the argument. For a young man who cannot marry, and who cannot attain to the high moral standard required for the suppression of physiological natural instincts, there are only two principal ways of satisfaction—viz., masturbation and mercenary love. The former, as is well known, leads to disorders of both body and mind; the latter to the fearful dangers of venereal. The question may be asked whether it were better to accept the least of the evils? Whether it were better to accept the Contagious Diseases Act, or the dangers as above portrayed? The opponents of the Contagious Diseases Act decided to accept the worst evil.

But not content with abolishing the Contagious Diseases Act in this country, they were not satisfied until it was abolished in India, and accordingly, in 1888, the House of Commons, in their wisdom, decided that the Act should no longer be applied to India. From what has been said of syphilis in the tropics, it will be believed that this was a still more insane procedure than the abolition of the Act at home. One of the first results of the cessation of the working of the Contagious Diseases Acts in this country, was an alarming increase in the number of men landed from the troopships in India with syphilis. Formerly it was almost exceptional for a soldier to be landed in India with syphilis. But directly the Act was stopped in this country, numbers of men arrived in India with primary sores, which had developed on the voyage out. The recently published report for 1890 on the health of the army in India is a blue book, which certainly ought to convince the most bigoted opponents of the Contagious Diseases Act, of the insane folly of which they have been guilty. Whether or not the Contagious Diseases Act did any good, there is now only too ample evidence that its abolition has done a very great deal of harm, especially in India. Take up the tale where we will, the recently published report tells the same terrible story. In 1884, when the Acts were in force, the admissions for secondary syphilis were 24.4 per 1000 of strength. In 1890 they were 66.3 per 1000. Other forms of venereal disease have gone up in the same period, from 90.2 per 1000 to 220.7. In 1884 the total number of admissions into hospital from these causes was 16,249, out of a total strength of 55,349; in 1860 the total admissions was 34,152, out of a total strength of 67,823. This means that more than one half of the number of European troops in India in 1890, were from venereal disease alone, unfit to take the field.

It is now 1893, and as there is reason to believe that the same rate of increase has been maintained the condition of the European army in India must be deplorable indeed, for there are many other maladies which also add to inefficiency. In addition to the increase of venereal disease there has also been a steady deterioration of the health of the Anglo-Indian army, which, if not directly attributable to syphilis, is doubtless indirectly and perhaps mainly attributable to syphilis. In the year 1890, 87 *per mille* of the European army were constantly sick, against only 60 *per mille* for the decennial period 1870-79 inclusive. In former times ague or some tropical malady headed the lists of sickness; now the preventable disease syphilis heads the lists! In a paper on Sanitary Progress in India, read at the International Congress of Hygiene and Demography last year, I remarked that the abolition of the Contagious Diseases Act in India was calculated to do more injury to the health of the European army in India than all the other sanitary measures could compensate. And the recent report on the health of the Anglo-Indian army amply corroborates this statement. The *Times of India* of June 3rd last commenting on the report observes: "Meanwhile the unsexed fanatics of Exeter Hall shriek on unmindful, and every appeal for the re-establishment of the Act and the protection of our soldiery from this terrible scourge is met by an outburst of purity cant from the pseudo-religious agitators of the Gladwin stamp. The mischief goes on increasing day by day, and a

remedy is called for in vain." How much longer is the health of the army to be thus insiduously undermined at the bidding of these fanatics? Let us hope that the Indian army will not be called upon to face a Russian invasion or to perform any other urgent duty in the field while more than five hundred out of every thousand men are suffering from venereal disease, and nearly one half that number from a most serious form of it. —*Provincial Medical Journal.*

CHRONIC TROPICAL DIARRHŒA, AS IT OCCURS AMONGST THE NATIVES OF INDIA.

By A. P. Das, L.M.S.

Late House-Physician, Chandney Hospital.

It is the duty of every practitioner, who has time and opportunity, to publish the results of his experience. In doing this he lays himself open to criticism, that all what he says or something very like it has been said before, but this does not destroy the value of his efforts, as he is at any rate confirming the work of others, and generally speaking, presenting facts which have some peculiar features that attracted his mind.

This disease is nomenclatured as Diarrhœa Alba from the white nature of the stools, and it is also called Morning Diarrhœa from the purging which occurs frequently in the early morning. By the *Kabiraj* this disease is called *Grihieny*, by the Chinese it is called *Spane*, and by the Himalyan tribes it is called *Hill Diarrhœa.*

Ætiology.—Malaria is often a predisposing as well as an exciting cause of this disease, as we often find chronic diarrhœa coming on after an attack of remittent or intermittent fever, when the health is broken down. In some constitutions slow malaria working latently in the system, causes congestion of the abdominal viscera, especially of the liver, and disorders of the chylo-poetic system. When the system has thus been predisposed, alternations of temperature, exposure to damp, cold, irregularities of diet, drink, excessive exercise, bad water, or emanations from decomposing animal or vegetable matter which would have been inocuous under other circumstances, often produce that amount of unbalanced exosmosis called *flux.* In females, after child birth or during lactation, when the system is debilitated, this disease slowly takes its root; beginning with indigestion and acidity, but terminating in Chronic Tropical Diarrhœa. Sometimes when simple diarrhœa has been neglected it takes on a chronic form, or when a patient has had several attacks of dysentery his system becomes susceptible to chronic diarrhœa. Slight irregularities of diet or exposure to cold or chill predispose to chronic diarrhœa and dysentery.

Pathology.—The gastric and pancreatic secretions, the bile and the secretions from the intestinal follicles and glands become deteriorated. Gastric and intestinal digestion is imperfectly performed, whilst the power of absorption by the villi and veins of the intestines is diminished, especially when the disease becomes chronic. There is always congestion of the intestinal vessels owing to the sluggish condition of the portal circulation. Atrophy of the secreting structure of the stomach, pancreas and liver also, the villi follicles of Lieberkühn's solitary and agminate glands of the intestines, the shedding of the epithelium of the villi is remarkable, but the reproduction is slow. Here and there we find the epithelium of the intestine is denuded, and small ulcers throughout the small and large intestines are observed. At last the secreting cells of the liver, stomach, pancreas, follicular and lenticular glands of the intestines and the absorbent structures of the villi undergo fatty and granular degeneration, or as sometimes happens, the minute vessels of the villi become infiltrated with amyloid material, when the pathological condition becomes grave.

Complications.—Sometimes chronic diarrhœa is complicated with organic disease of the liver and kidney, or both, when the prognosis is unfavorable. Similarly this disease is complicated with tuberculosis and pernicious anæmia. Cancrum oris is one of the rare complications.

Symptoms.—At the early stage of the disease there is malaise and uneasiness, loss of or impaired appetite, a sense of fulness or distension after meals relieved by eructation, irregular action of the bowels, sometimes the first motion is semi-liquid and the successive motions are loose. At first the motions are 4 or 5 in 24 hours, afterwards they range to 10 or 12 in a day.

The motions are clay-colored, white, offensive, liquid, and passed generally in the early morning with a copious escape of flatus. They are copious, white, liquid, evacuations when only liquid food is allowed, or lienteric in proportion to the amount of solid material taken. There is portal plethora with or without hæmorrhoidal tendency. The tongue is coated white and the taste is depraved. Sometimes the tongue is red and sore indicating the denuded condition of the intestines. Uneasiness and griping in the abdomen is sometimes complained of, sickness, borborygmi and thirst are prominent symptoms at all stages. In this state the patient may go on for weeks and months until his health is shattered and he becomes incapable for work, when anæmia, as indicated by pallor of the face, lips and conjunctivæ, shews itself.

In the advanced stage the motions are painless, more frequent, watery, copious, white, and of offensive smell. Sometimes the motions contain blood, mucus or gelatinoid exudations. If there is dysenteric complications the patient will complain of pain and gripes during evacuations. Extreme anæmia and debility set in, the red blood corpuscles become deficient in number and color, and there is attenuation of the albumen of the blood. Sometimes the conjunctivæ is tinged yellow, tongue red, smooth and shining, and destitute in great part of epithelium. Thirst and sickness are excessive, pulse weak, feeble and compressible, palpitation, giddiness on slight exertion; urine scanty, high colored, and sometimes with deposit of urates and lithates; hollow cheeks, sunken eyes, and pinched face, are always remarkable, skin is dry and parched, perspiration checked. Temperature normal or subnormal, or slight rise during the night. There is tenderness over the cæcum, colon or ileum. In some cases the liver and spleen are enlarged, but in the majority of cases the liver is tender and painful on pressure.

Emaciation and wasting is extreme. There is a tendency to swelling of the feet, and local anasarca may run up to the knee; but rarely any effusion into the serous cavities, unless the case is complicated with cirrhosis of liver or Bright's disease. At this advanced stage food when taken is not assimilated, on account of the atrophic condition of the glands of the stomach and intestines.

Sir Joseph Fayrer and Dr. Joseph Ewart in their elaborate papers on chronic Tropical Diarrhœa, as it occurs amongst the Europeans in India, read before the Medical Congress at Copenhagen in 1884, alluded to the pigmentation of the skin and purpuric or scorbutic effusion of blood under the skin, but these symptoms are rarely to be found amongst the Natives of India, on account of the peculiar nature and tint of their skin.

Diagnosis.—By the history of the case, by the nature and frequency of the stools, we can arrive at an early and easy diagnosis.

Prognosis.—Depends upon the complications. If chronic diarrhœa is attended with amyloid degeneration, then the prognosis is grave; similarly if there is any cirrhosis of the liver, chronic or acute Bright's disease, or tuberculosis of the lung or pernicious anæmia. In the aged the prognosis is unfavorable.

Treatment.—Our old plan of treatment by opiates and astringents with a mixed dietary is not efficacious for these cases, but our new plan is only an imitation of what *Kabirajs* have practiced from bygone times, though the profession is indebted to Sir Joseph Fayrer and Dr. Joseph Ewart for the new mode of treatment with milk and milk only.

In mild cases, *bael* in some shape combined with milk diet will have a good effect. Of bael I prefer one ounce of the pulp of the ripe fruit in the shape of sherbet, morning and evening. If the ripe fruit is not procurable the liquid extract of bael, a drachm dose, or bael powder a teaspoonful twice daily can replace it. Milk, fresh and boiled is preferable. About ¾ or 1 seer in 24 hours, in divided doses at the commencement, to be increased gradually as the digestive power will increase. If there is any exacerbation in the evening, a 2 grs. quinine pill once in the morning, for about a week or two, will check it.

From the day milk diet is given, distinct effects will be noticed in the patient, who will sleep well, and will obtain rest from his abdominal troubles, the motions will decrease in number, and will be consistent. These effects will be noticeable a week after the commencement of the milk treatment, sometimes earlier or later. Sometimes on the continuation of milk diet the bowels get constipated, then a dose of castor oil, say 4 drachms, in the early morning is advisable. In these cases *milk* is preferable for the reason that the stomach is weak like a child's stomach, and as milk is our rudimentary food which nature has put before us for its easy digestibility, it agrees very well. Sago, arrowroot, or other starchy diet, will do mischief at the first stage of treatment.

In severe cases when there is any, congestion or enlargement of the liver, a minute dose of calomel ⅛th to 1/6th of a grain or liq; hydrarg perchloride, 5 to 8 minims, twice daily, acts like a charm. (1) Mercury acts as an alterative, 2ndly as an intestinal antiseptic, 3rdly it has a specific action over the liver.

In some cases the irritability and the peristaltic action of the intestines is so aggravated, that milk when taken is hurried down for evacuation, when a 5 drops dose of liqr opii or tinct opii B.P. twice daily, will prove beneficial, increasing absorption by lessening the peristaltic action of the intestines.

In all cases, and at all stages, a strict milk diet should be continued till the health improves, or till the sores in the mouth are better, and are replaced by natural epithelium. Keep the patient on milk diet for 30 to 40 days.

Hygienic Treatment.—Rest is very necessary. Exposure to cold draughts or chill is injurious. Keep the body well covered and put the patient in a well ventilated room. Drinking much cold water, soda water, or strong tea, is objectionable. Sponging the body with tepid water is an auxiliary step towards cure.

During the convalescent stage, gentle exercise, change of air, regulated diet, and some ferruginous tonics such as dialysed iron, ferri et pot: tart, gr. 5, with infusion calumba ℥i, twice daily, will hasten the cure.

THE TREATMENT OF ARM PRESENTATION IN MIDWIFERY PRACTICE.

BY NARESH CHANDRA MITTRA, M. A., M. B.
RANCHI CHARITABLE DISPENSARY.

THE object of this paper is not to dilate upon the treatment of ordinary cases of arm presentation, but to discuss those rare and difficult ones in which the membranes have been long ruptured, the arm presenting and pressed down into the pelvis and the uterus firmly contracted round the body of the child. These cases are no doubt rare, but the physician may, at any moment, be called upon to attend any such, where the patient is reduced to such extremes, that unless prompt measures are resorted to, to effect delivery, fatal results are sure to supervene from sheer exhaustion. In many cases, if an intelligent midwife had been present to feel the presenting part, a small effort could have obviated the danger, by rectifying the position. What happens is that the arm presents, the os dilates, the membranes rupture, the hand protrudes, the os becomes rigid, the uterus contracts round the body of the child, and the pains are at a standstill. The absence of a fluid wedge to favor dilatation or version is the most discomforting condition in these cases. The firmly contracted state of the uterus is prejudicial to the free circulation of the fœtus and hence, if sometime have already elapsed since the escape of the waters, it is a foregone conclusion that the child is found dead. The attendant midwife, in her anxiety to effect a speedy delivery, being devoid of the knowledge of the elements of anatomy, drags upon the arm, as she does in cases of feet presentation, with the hope that traction will help extraction of the fœtus, and in one case I have known of the arm being torn off at the shoulder in this endeavour. However rude this procedure may seem, the practice of amputating at the shoulder joint in these difficult cases is recommended by many ancient

writers (Ætius, Heister, and Saviard) as detailed by Ramsbotham.

Treatment.—The accoucheur called upon to treat such cases has his energies taxed to the utmost, in his endeavour to effect a safe termination of the case, for, it is not so much the speedy delivery that is urgently sought after, but the ultimate safety of the patient. The treatment may be divided under the heads of, *I Natural. II, Artificial.* Natural delivery consists of those cases where the patients have been left to nature, and in whom after a long period, delivery takes place either by spontaneous version or spontaneous evolution. By the former mechanism, owing to contraction of one portion of the uterine wall and relaxation of the muscular fibres of the os, another portion, the presenting part, is drawn in, while some other part of the fœtus presents and delivery is thereby effected. Spontaneous evolution takes place by the fœtus being squeezed through the pelvis and expelled without the presenting part being withdrawn. But none of these mechanisms can be relied on in practice. If such cases are left to themselves without the interference of any medical man, such terminations have been known to have taken place. No medical man ought to wait for the helping hand of nature in these cases, but should resort to every means at his disposal to effect his purpose. The treatment consists of (1) medicinal (2) instrumental. Authors differ as to the choice of the agents. Some recommend depressants to secure relaxation of the uterus. Among the depressants, *tartar emetic*, in big doses, has been advised, *venesection* is the favorite of some. Depressants should not be pushed too far, for the patient's life may be in jeopardy even after delivery has been effected, owing to the dangerous depression which these bring about in an already exhausted system. *A warm hip bath* is good, provided it can be managed. Failing in our object by these means, complete anæsthesia by chloroform should be resorted to. When thorough relaxation has followed, the hand of the accoucheur is to be introduced past the presenting part into the uterine cavity, and catching hold of the feet, version should be completed. But I have found in a case of mine, complete anæsthesia, even after the prolonged use of chloroform, did not favor any relaxation of the rigid os or of the uterine fibres, and I could not introduce my hand to effect version. I would recommend that before administering chloroform, which is held highly objectionable in private practice by the friends of the patient, a fair trial should be given to *chloral hydras*. Playfair recommends it in cases where the cervix is spasmodically contracted. It is very difficult to diagnose such a condition of the organ, as the seclusion of the Indian Zennana demands complete privacy from male accoucheurs, and debars us from making that thorough examination which the nature of the case calls for.

In view of such enormous difficulties in the way of accurate diagnosis, I am strongly of opinion that wherever in cases of arm presentation, where the waters have long escaped, and labour is being delayed owing to rigidity of the os, *chloral* must be administered and almost always with the happiest results. If, even after all our efforts, we do not succeed in turning, the next treatment is to effect extraction by Cæsarian section or decapitation. But when rigidity of the os continues on, despite all our attempts, so that the introduction of instruments inside the uterus becomes an impossibility, we are left no other resource, but to try Cæsarian section. These extreme measures are fortunately seldom resorted to, and version may be accomplished.

Two cases have lately come unnder my treatment, and I here cite them.

The first was that of a multiparous female. I was called to see her one morning. She had been in labour for the last 40 hours with escape of *liquor amnii*, 36 hours previous to my visit. I was informed by the midwife that the right arm was presenting, with unusual rigidity of the os and absence of any pain. I was not allowed to examine the parts, so chloroform was administered, and after complete anæsthesia having been secured, I introduced my left hand, but the uterus was in such a contracted state, that I could not get my hand towards the fundus to catch hold of the feet. Before having recourse to severer measures, doses of *vini antimonialis* and warm hip baths were ordered. These produced such a complete relaxation of the parts, that delivery was effected quite easily in the afternoon without any untoward symptoms. The second case was that of a primipara. Waters escaped 16 hours previously. The arm presented with a rigid os and no pains. *Choloral hydras* was at once given in 15 grs. doses. After the 2nd dose she went to sleep, and when she awoke, complete relaxation had taken place, and she was easily delivered of a still born fœtus.

OPHIOLOGY
OR
A DESCRIPTION OF THE SNAKES OF INDIA.

By R. P. BANERJEE, B.A., G.B.M.S.L.
PACHBADRA, RAJPUTANA.

(*Continued from page 136, Vol. II.*)

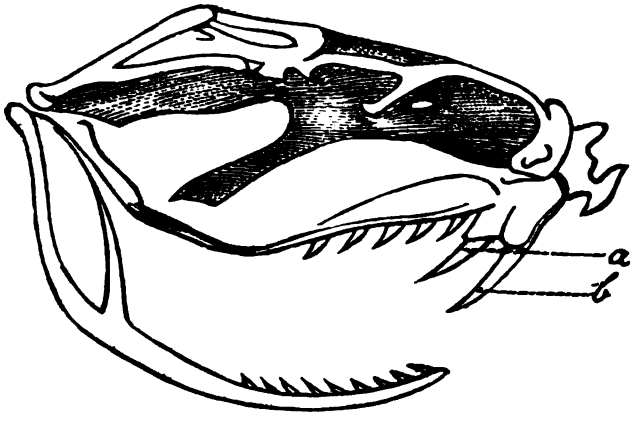
PECULIARITIES IN VIPERINE SNAKES.

GOING over my collections of snakes available in Pachbadra and the neighbourhood, and dissecting many of them, I hit upon a few peculiarities, that would be worth careful study and consideration from biological students, and those interested in the study of Ophidians. Such peculiarities as detailed here bring the Viperines very near the Colubrines, and the Bungaroides.

In dissecting six specimens of *Echis* and two of Daboia, I found after cutting open the mucous fold sheathing the base of the fang, on each side, a small millet-seed-like bony tubercle just posterior and internal to the usual fang. This tubercle was movable independently of the existing fang, and at its base and externally had a few muscular fibres attached. On putting these to traction, the tubercles became more visible and prominent, but such action did not move the usual fangs.

Again in two cases of *Echis* of unusually large size, I found one accessory fang on each side, behind and internal to the usual ones, exactly simulating fangs, and corresponding to the tubercle as already described. I have got one good speci-

men preserved in spirit, which shews such accessory fangs, one on each side, equally as perfect and effectual as the usual ones. The existence of this accessory tubercle or fang in viperidæ goes to prove with Mr. Darwin, that such are only developmental phenomena, and much depends upon the mode of living of the snakes. Here I have found, not small birds and mice or rats in the bowels of such snakes, but lizards of all kinds, that have very rough skins, and even moles and iguanæ were swallowed, and on dissecting the skull, invariably in such cases I found the tubercles existing, and in a few the accessory fang being present.



(*a*)—Accessory fang. (*b*)—Usual fang.

Daboian skull.—Dissected from spirit preserved specimen, shewing accessory fang differentiated from the usual one.

Remarks.—The peculiarities above noticed have been found in several classes of harmless snakes, and in colubrines and bungaroides; therefore it must be borne in mind, that punctures inflicted by viperines having such accessory organs might lead to fatal error, as the punctures simulate the bites of the cobra, kariat, and other snakes, for which, strychnine has lately been promulgated as an antidote, but which has not been sufficiently tried to be of general use, or its efficacy established in cases of cobra bite, as successfully as in bites of other snakes. Such bites therefore, may be mistaken for cobra, and *vice versa*.

My short experience is only limited to the snakes of sandy and arid soils; but professional men placed in better positions in districts abounding in such snakes living upon different soils, could throw a great deal of light upon this subject by their valued labours and researches in this direction.

VIPERINE SNAKE POISON.

The few experiments that I have been making were mostly confined to the viperine snakes, as at this season of the year other classes of snakes are scarce here, and the following is a short description of them.

The Poison.—This consists of a peculiar lemon yellow glairy fluid, usually slightly acid in reaction, and when dried forms yellowish incrustations not unlike *santonine* or narcotine, soluble in water at all temperatures, in alcohol, and more so in alkaline solutions. On evaporation of such solutions, no encrustations, but a viscid ropy matter was obtained quite unlike the original in physical and chemical nature. The virus obtained when the snakes were excited or made to bite a piece of wood violently, gave acid reaction; but that obtained during the quiescent state, was weakly alkaline and less ropy or glairy.

Experiments.—As all the canine family are more sensitive to the effects of strychnine, a set of *pups* were experimented upon with very good results.

(1). A small pup (Pariah dog), 3½ months old, strong, healthy, and well fed, was experimented upon at 12 a.m. on the 2nd March, 1893.

Skin of the left hind leg shaved and blistered, the cuticle removed, and the serum drained off. To the thus presenting raw surface 1/20th grain of the freshly prepared venom was rubbed in, a guttapercha shield applied, and the dog tied up.

Symptoms.—At '30 p.m.—The dog became lazy and stupid; could not stand on its hind legs, and staggered and fell if an attempt was made to stand. Eyes were red, and pupils widely dilated. Mouth and tongue dry. It felt very uneasy and could not drink water properly. Barked with a peculiar husky voice. Breathing difficult, but no signs of any pain were manifested. The dog appeared as if suffering from great starvation and exposure to heat.

At 1 p.m., breathing more difficult, more sleepy. Legs, especially the hind ones, paralysed. Sometimes gasped for breath. Seeing the animal was now dying 1/12th of a grain of acetate of strychnine in distilled water was hypodermically injected under the skin of the abdomen, above the navel.

At 1-15.—The dog began to bark loudly, and attempted to raise itself, but it failed to do so. Breathing became now easier, but the stupor remained. Half an hour later 1/12th grain more of strychnine was given, and at 1-55 the dog looked well. No difficulty of breathing present, the legs seemed to gain strength and senses returned. Wagged its tail if called by its name. The pupils were not so much dilated, but were still red. Mouth now moist. A little water was given which it licked very well, but soon vomited it mixed with frothy matters, highly acid to test paper, and very offensive. A few crumbs of bread which were given, it could not properly eat, as the muscles of the jaw did not act together and properly. Again at 2 p.m., 1/12th grain of strychnine was injected under the skin. At 5 p.m., the dog was alright. No bad symptoms remained. It ran away when untied, and responded to, when called by its name. Took bread rather greedily, as if he was starved. At 6 p.m. he was quite well, and ever since has presented no bad symptoms.

Remarks.—In 7 hours the dog took in all ¼ grain of acetate of strychnine and recovered well, with all the senses restored. The blister was dressed.

(2). On the 7th March, 1893.—4 small dogs were experimented upon with the venom. ½, ½, ¾ and 1 grain respectively, and treated with strychnine. All recovered and are well. Generally the dogs shewed the following symptoms after introduction of the poison.

Breathing difficult and sterterous. Tongue and mouth dry. Paralysis of the legs. Bleeding from the mucous surfaces. Pupils dilated. Sense of hearing and sight suspended. In some, involuntary discharge of urine and fœcal matters occurred. Two vomited, and made repeated attempts as if to bring up everything from the stomach, but nothing was brought up.

Treatment.—Strychnine was injected under the skin, and gradually the symptoms subsided as the dose increased, and all the dogs subsequently recovered.

Remarks.—Soon after introduction of the poison the dogs became excited and unmanageable, and began to howl at something imaginary. They even stared at their master and keepers. Again when they recovered they showed irritability of temper, and in one dog aged one year, the voice was permanently affected, and the bark was husky and of very low tone; as of one affected with chronic sore throat.

(3). On the 23rd March, 1893.—Two dogs, each 2 months old, healthy and strong, were experimented upon.

Strychnine $\frac{1}{8}$ grain injected under the skin of the abdomen, and after $\frac{1}{4}$ of an hour, the following symptoms appeared in both.

Great excitement, lock-jaw, eyes ghastly and open, pupils dilated, twitching of the muscles of the leg, breathing interrupted, urine passed in drops and involuntarily, and the dogs moaned as if in great agony.

Treatment.—Upon a bruised surface. $\frac{1}{4}$ grain of dried poison (viperine venom) was rubbed in. After 15 minutes the jaw began to be affected, and the breathing easier. The twitching of the muscles subsided, and after an hour and a half all the symptoms disappeared, and except a peculiar cripple, the dogs recovered. They displayed symptoms of extreme exhaustion, and they were then kept on good diet and are now better.

Remarks.—These cases tend to shew, that the effects of strychnine, to which dogs are more specially sensitive, were counteracted by the poison when introduced into the system so affected, and it goes to prove that strychnine and viperine poison have effects antagonistic to each other.

General Remarks.—From the above few experiments it appears plainly, that strychnine has decided effects over such poisons, but snake poison varies in strength and nature according to the mode of living and residence of the snakes. Only those living in deserts have been experimented upon, but others remain to be tested, therefore, I would limit my experiments to shew that in viperine poison, strychnine is decidedly useful. I have not been able to experiment with other classes of snakes, as they are rarely met with during this season of the year here. A further trial of strychnine with all the poisonous snakes of India that are known, would be desirable, and more extensive and careful experiments are necessary to establish the efficacy of the drug under consideration, because strychnine may be useful in one class of snake bite, but may be equally useless in others.

(To be continued.)

A Mirror of Practice.

A RARE CASE OF IMPERFORATE ANUS—OPERATION AND RECOVERY.

By SURGEON-CAPTAIN W. PRICE M.B.,I.M.S.
CIVIL SURGEON, CHINDWARA, C.P.

A month or so ago, a newly born male infant was brought to the Municipal Dispensary, the relatives stating that it could not defæcate.

On examination, no anus could be found. There was seen, however, a dark tortuous tube, beginning at the normal position of the anus, and terminating about an inch from the root of the penis. It measured about $\frac{1}{4}$ of an inch in diamater at the anal end and tailed away to a point. This tube was slit up along its whole length and gave exit to a fairly large amount of meconium. At its thicker end was found a septum, occupying the position of the anus, with a small aperture connecting the external tube and the gut inside. The septum was dealt with in the usual way and the anus restored.

I report the case because it appears remarkable to me. I have neither heard of, nor read of a case, in which the gut was thus prolonged beyond the anus. I am assuming of course, that the dark tube described was a prolongation of gut. If it was not, perhaps some of your readers will be able to throw light on its nature.

THE TREATMENT OF CHRONIC DYSENTERIC ULCERS WITH STRICTURE AT THE SIGMOID FLEXURE.

By R. N. GHOSAL, L.M.S.,

The patient, a girl aged 4, suffered from an attack of chronic dysentery with fever since September, 1892. Her parents kept her under the treatment of a native doctor, who gave her freely, quinine, ipecac, kurchi and other drugs. After 2 or 3 months of such treatment, she was brought to me. The father said that she had never suffered from any such attack before, and that she had been very healthy before this seizure. There was no history of any constitutional disease in the family. When I saw the child, she had been reduced to a mere shadow of her former self. The bones of her body and the extremities were prominent, and the skin dried and shrivelled.

I examined her rectum, and found a ragged ulcer with a feel of distinct stricture somewhere near the sigmoid flexure. On palpation, at the left groin, I found the parts tender, and extremely painful. During defæcation she strained a great deal. There was actual hæmorrhage of pure blood, both before and after each stool, and marked constipation. The fæces were composed of jet black hard scybalous lumps. This condition, I heard, had continued for more than two months. I heard also, that castor oil was sometimes administered to move her bowels, but with no radical effect.

I examined her abdomen, and found it to be slightly tympanitic. There was œdema of both the ankles, and general anæmia. There was no fever.

I prescribed the following.

℞ Pulv. rhei co. ... ... gr. v.
Hydrarg c. cretæ ... ... gr. ½.
Soda bicarb ... ... gr. i.

M: ft: One powder.

To be taken every night for a week, at bed time.

The diet to consist of boiled rice and milk in the morning, and milk and sago in the evening. Nothing to be given late at night. I also prescribed—

℞ Hydrarg perchlor ... ... gr. ¼.
Glycerine ... ... ℥i. M.

As a local application, which I directed her mother to apply by means of her left index finger, previously, and daily, paring her finger nail, before each application. This to be applied immediately before and after each stool. After a week's trial of the above powder, the fæces changed their color, and became soft and healthy. But the hæmorrhage still continued, though not so profusely as before. Then I prescribed—

℞ Liquor ferri dialysatis, m i. Tr. calumba, m ii. Spt. chlorofom, m ii. Tr. nucis vomica, m ½. Aqua, ad ℥ ii. Mix. Twice daily.

This mixture she continued for months with marked benefit. She is now perfectly well and has gained flesh. The ulcer has completely healed, there is no hæmorrhage, and her bowels are perfectly regular. She is still taking the above mixture. She had fever twice while under treatment, but no medicines were necessary, it ceased on simply stopping her rice.

A CASE OF CANCRUM ORIS.

BY NARESH CHANDRA MITTRA, M.A., M.B.
RANCHI CHARITABLE DISPENSARY.

THE definition of *cancrum oris* as given by various authors confines the origin of the disease to the inside of the mouth, though the exterior may be affected as well. A case has lately been under my care where the inflammation was limited to the exterior of the cheek, but the character of the inflammatory process, and subsequent progress of the disease, has strongly impressed me that it should be classed under the head of *cancrum oris*, despite the absence of any inflammation inside the cheek.

One H. M. æt: 35, was admitted to the Municipal Hospital on the 11th February, 1893, suffering from a big abscess over the right side of the cheek. *Previous History*:—Had been attending the out-door dispensary for treatment of a big swelling on the inner side of the right ear. As painting with *iodine* and *belladonna* did him no good, he was advised to frequently poultice the part.

When admitted, the swelling was tense and shining and pitted on pressure. He was in great agony owing to the pain which the slightest movement of the jaws would cause. The swelling was over the right side of the cheek near the right ear, a portion of it lying over the parotid region. The whole of the right side of the cheek was a bloated mass. A point had formed which was of blackish color. The centre was incised and a quantity of pus of a most sickening smell was evacuated. The next day, the point formed just behind the right ear, which also was of black color. It had to be opened, and the pus had a putrid smell. The site of the original swelling was found the next day consisting of a mass of sloughs, partially hanging down. It was poulticed with two parts of *charcoal* and one part of *flour*. In a few days all the sloughs separated, healthy granulations formed, and the part cicatrized. About two days after, the patient was discharged, but with partial paralysis of the right side of the face. This paralysis was due to the implication of the facial nerve in the inflammatory process. Whether this case is to be classed as one of *malignant parotitis* or not, I leave to the readers; but I would classify it under the heading of *cancrum oris*.

CASES FROM THE CIVIL HOSPITAL, DELHI.

BY ASSISTANT-SURGEON MUL CHAND,
IN CHARGE, CIVIL HOSPITAL.

Case No. III.—Jahangeer, Mahomadan male, aged 25. Admitted into Hospital on 28th March, 1892, for a severe injury to face, the result of an explosion of fireworks.

Symptoms:—A lacerated wound on cheek, 3" by 2", face swollen and red. Eyes closed. Skin hot. Temptr. 103. A large piece of iron irregularly bent was imbeded in the malar and nasal bones.

Treatment.—Patient removed to the operating theatre, put under chloroform, and after enlarging the wound at the outer and inner parts, a large piece of iron bent downwards at the outer, and upwards at the inner end, was removed after great trouble and delay, from the body of the malar and from under the nasal bones. It was 4" by 3" in size, and protruded into the left nostril, under the bridge of the nose, and could easily be felt there, by inserting the tip of the little finger into the nostril. The patient made a rapid recovery under antiseptic dressings, and was discharged cured on 4th April 1892, seven days after admission.

Case No. IV.—Gunput, Hindoo male, aged 40. Admitted on 15th April 1892, for Fibroma on the face; duration 5 years.

Symptoms:—First noticed, when about the size of a small plum, and gradually enlarged to its present size of a large orange, extending from just below the lower eyelid, down to the lower jaw. Internally it reached the left nostril and upper lip, and extended over and outside the malar and superior maxillary bones, and was firmly adherent to the jaw bones. The skin being movable on the surface.

Treatment.—Tumour extirpated under chloroform without any difficulty. Only one large vessel had to be tied, and the firm attachment with the jaw was carefully dissected out. Incision healed up rapidly, and the large depression on the face gradually filled up. He was discharged cured, on 15th May 1892, a month after admission.

(*To be continued.*)

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The Medical Reporter.
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We have been favoured with a copy of the Report of the Leprosy Commission, through the Home Department of the Government of India, and whilst endeavouring to arrive at a correct estimate of what the Commission has done, we cannot help recording, with much regret, the untimely death of Surgeon Major Arthur Barclay, M.B., C.M., of the Indian Medical Service, who was one of the Indian members on the Commission, at whose feet, during our student days in the Calcutta Medical College, we sat and learned Pathology, and with whom we were associated as Assistant in the Physiology Class. No better selection at the time could have been made than this medical officer, to be one of the Indian representatives, and his untimely end removed not only a useful member on the Investigation Committee, but the Indian Medical Service also suffered a very great loss thereby.

The name of Father Damien which will ever be connected with the history of leprosy, his martyrdom in that cause being the means of originating the Leper Commission—three members being appointed by the Royal College of Physicians and Surgeons and the Executive Committee of the National Leprosy Fund. They left London on the 28th of October, 1890, arriving in India (Bombay) on the 17th November, where they were met by the Indian representatives, after which their labours began. Numerous places were visited and over two thousand lepers were personally examined, with a view to eliciting data as to heredity, contagion, and other points in the ætiology of the disease. This enquiry lasted about five months, and the remainder of the time was spent in bacteriological investigations at Simla, where the Government of India had built a special laboratory for the use of the Commission. The Report therefore is divided into two chief parts. In the first we have before us the results of the enquiry of the Commissioners while travelling, and in the second an account of their laboratory work.

The introduction and the first two chapters of the Report, call for no special comment. They consist of a diary and a description of the asylums visited, the number of lepers seen, and other statistical information. Details of the distribution and spread of leprosy, its relation to soil, climate, race, and other conditions, are given in the third, which perhaps is the most valuable and interesting portion of the Report, occupying as it does, nearly one-third of the entire volume. In this chapter we have data dealing with the Census Returns, and many difficulties seem to have arisen in collecting information from these Returns. The figures shewing the numbers in the Return, were throughout very faulty and unreliable, as the diagnosis of what constitutes a leper, was in many instances left to unprofessional enumerators, and especially in the first two censuses, the Commissioners think, that cases of leucoderma have been included under the heading of leprosy, and though they have not an absolute value, they are not altogether worthless. From figures before us they are important, shewing against the assertions made from time to time regarding the alarming increase of leprosy under the term of "Imperial Danger", but there is no absolute proof that it has increased to such an extent as to undermine the health of the population. The value of these Census Returns, although not of a high degree of accuracy, yet if they point to anything, they appear to indicate a decrease. We do not for one moment wish to assert that these Census Returns are absolutely worthless; there are circumstances in India, such as the "purda" where all sources of information are cut off from the collectors, but that the actual number of lepers has been much exaggerated by the advocates of segregation, there is no doubt; for they affirm that it is many more times greater. Taking the figures as they are presented to us, we note that the prevalence of leprosy in 1871, was 5·5, 6·0 in 1881, and 5·0 in 1891, per ten thousand. Although these figures are presented, yet the Commissioners do not regard them as absolutely correct; but nevertheless they are the best obtainable, and therefore of some practical value. They no doubt afford evidence of the likelihood of there not having been any appreciable increase in the number of lepers in this country, and the term "Imperial Danger" with all its fancied fears, may be looked upon as ideas of the ignorant, the figures on the whole being a safe criterion of the prevalence of the disease in certain areas.

Regarding climate, the conclusion is, that leprosy is undoubtedly more common between the tropics than in temperate zones, but climate cannot be said to be the cause of the disease, as leprosy exists in all latitudes. Whilst considering the effects of climates, all such factors as food, race, soil, and habits of the people were included; and it is affirmed that leprous areas are distributed inversely with dryness of climate, which however does not hold good in all cases. It is also said that leprosy prevails mostly inland, and is not related to places near swamps or rivers, which of course explodes the old idea, that leprosy was common amongst the fish eating population.

Regarding leprosy and the increase and decrease of the population, the Commissioners think that the Census Reports bring out this fact strongly, that no connection exists between the increase or decrease and the leper ratios, and if an absolute value is to be placed on the present enumeration, the figures shew that though the general population has increased, the number of lepers has materially diminished during the last decade.

The prevalence of leprosy in some districts where cholera is also prevalent is also alluded to, on the theory that where cholera is, it may be assumed that the hygienic and physical powers of the people are low; and as leprosy is prevalent in some of these districts, it may be accepted amongst other causes, to explain the great amount of Leprosy in those affected. No connection between cholera and leprosy is pointed at, but it is suggested that it is quite possible that the same noxia which causes one district to be more subject to cholera than another, may have also a deleterious effect on the vital powers and general conditions of their population, in other directions.

Next comes the consideration of "Leprosy and Famines", and the solution of this portion of the question is arrived at by a consideration of the Census Returns, and the supply of food crops, shewing that a decrease is becoming generally more visible every year. It is also suggested that by improvements in the condition of the people a diminution of leprosy has taken place.

With reference to poverty, it is known that leprosy is undoubtedly a disease which affects the masses more than the wealthy, and it may be asked whether the districts in which leprosy is commonest, are also the poorest. To support this contention the Commissioners refer to Bengal Proper, and the Burdwan, Bankura, and Beerbhoom Districts, where leprosy is undoubtedly most prevalent. Regarding the agricultural condition of these places it is a known fact, that Bengal is one of the richest provinces in India, and the others enumerated are in no way inferior; but owing to much over-crowding of population, the produce is insufficient; combined with this the unhealty climate, malaria and cholera being endemic, the Commissioners think may explain to a certain extent the great prevalence of leprosy. Again we learn that in the Chittagong Division, the people are, for Bengal, an healthy and able bodied race, thrifty and industrious, and in a condition of considerable prosperity, and here the smallest leper ratio of any Bengal Division is found. In Rungpore, where leprosy is extremely prevalent, the tracts are characterised by marshy and uncultivatable land, the people being of lazy habits and miserably clothed. On the other hand, the areas of comparative immunity are extensive local plains covered with paddy, the inhabitants being industrious and given to other pursuits besides agriculture; trade is active, crops better, and the people more civilized. Many other districts are referred to, but the general deductions arrived at are the same.

The very important question regarding leprosy being an endemic disease is next dealt with. It is shewn that the existence of a special predisposition is necessary, and certain factors partly connected with climate, economic, social, or hygienic conditions, which establish the nature of the affection, and these conditions being granted in a locality, the disease can be developed. "Leprosy is an infectious disease," but a certain amount of disposition of the individual is necessary, therefore, it can only be endemic in areas where besides the virus, those factors which induce predisposition in the individual also exist. This virus we learn will probably be found in the resting stage of the bacillus lepra, but as yet the living microbe has not been found outside the human body. Since the disease is highly prevalent, this virus is highly distributed throughout space, and as special conditions of an area largely predispose its population, it is evident that every facility is offered for the acquisition of the disease apart from contagion. If the virus is widely distributed, contagion may be neglected, since all measures applied against the latter could be of no avail in stamping out the disease. The disease has, we all know existed in India since antiquity, and it is highly probable that the bacilli in a resting stage are widely distributed, ready to encounter the susceptible individual, and with the experience gained from the ætiology of tuberculosis it is quite legitimate to assume so. Again there are similar cases in bacteriology, e.g., where the specific organisms without doubt exist in the soil in the form of spores, and yet have never been demonstrated by the microscope. The slight decrease in the leper population, if an actual one, it is reasonable to assume as in the case of the phthisis mortality in England, is due to the improvement in social and hygienic conditions, which undoubtedly has taken place during the last quarter of a century. With a further and continued improvement of these, it is hoped, that in India it will cease to be an endemic disease. There is no idea of segregation here, but improvement in the general surroundings, which influences the decreased prevalence. Regarding race, the Commissioners say, there are in India no favoured races who are exempt, and it is difficult to explain to what extent the various races suffer. The Native would seem more prone, and the unmixed European the least, whilst the Eurasian occupies an intermediate level; but given equal and favorable conditions, all will be affected alike.

Regarding caste, it was found that the least amount of leprosy is found among the wealthy or rich castes, being less than one per ten thousand; while the disease is mostly prevalent amongst the poorer castes; which again throws a great deal of light on the liability to contract the disease when living under bad hygienic conditions. The tables given at the end are very striking, but owing to want of sufficient data at the time of writing, the Commissioners think the further investigation of the matter must be left to others who are more familiar with Indian social matters, and who are in possession of all the statistical evidence obtainable. The few facts at their disposal clearly point to the influence of poverty in the distribution of leprosy. Referring to asylums and the spread of leprosy by increase in the number of inmates, such increase by spread of disease cannot be traced; but the increased popularity of these institutions, often attracts lepers from neighbouring native or feudatory States. That there is truth in this, very little proof is needed. The Commissioners say, when a district shews a dense leper population, one of the points for consideration must be; whether an asylum exists in the locality, and how many of the inmates have immigrated from outlying regions.

Next comes the very important question of "Leprosy and Vaccination" which has been occupying the minds of many of late. After a careful examination, the Commissioners say, those who

accuse vaccination of spreading leprosy must first ensure the correctness of their major premise that leprosy has increased. The *onus probandi* necessarily rests with those who make the accusation, and until a series of positive cases, free from all doubt and objection, can be demonstrated, the statement that leprosy is diffused by vaccination, must be regarded as devoid of scientific value.

The fourth chapter in the report deals with hereditary transmission and predisposition, and it is well known that there are varied opinions in the profession on these points. It is clearly shown in the Report, that there is no evidence that hereditary transmission of the disease determines its prevalence, and it must be shewn that the parents were actually suffering from the malady before the birth of the child, and not that they acquired it after its birth. Leloir lays particular stress on this point. After an examination of over 2,000 cases, the Commissioners have come to the conclusion, *that leprosy in India cannot be considered an hereditary disease, and they would even venture to say, that the evidence which exists is hardly sufficient to establish an inherited specific predisposition to the disease by the offspring of leprous parents, to any appreciable degree.* Some of the statements made in this chapter are not at all easy to follow. The statements such as 'hereditary transmission' and 'inherited predisposition' are, to our mind, much mixed up, and do not appear to be reconcilable with statements made in the previous chapter. The question of marriages amongst lepers is fully set out, with the result that it cannot be regarded as harmful to the community, and also, that no risk is run of a diffusion of leprosy by means of the offspring of lepers, which in a great extent is due to the relative sterility of lepers, whether males or females. But whatever may be the conclusions at which the Commissioners have arrived with reference to this portion of their enquiry, we believe there is very little chance of healthy people marrying those shewing the remotest symptoms of leprosy.

We now come to the fifth chapter, which deals with the contagiousness of leprosy.

All modern authorities, the Report says, are agreed that leprosy is an infectious disease, and that it is caused by a microbe, the bacillus lepra. But has this ever been proved conclusively? If the bacillus lepra is present, does it necessarily follow that it is the cause and not the sequence of the condition. If it is correct, that it is the cause, it gains access to the body from without, and subsequently multiplies in the organism.

The next point is, whether or no leprosy is contagious. The Commissioners say it is only too frequently taken for granted, that a disease due to a pathogenic germ is necessarily also contagious, and that this need not be the case they endeavour to prove. The views of different authors are examined, and then follows a detailed account of the views held by the Commissioners. The whole question turns as far as we can see on the susceptibility of the individual, and the conclusion arrived at is, that, *though they consider leprosy an infective disease, caused by a specific bacillus, and moreover also a contagious disease, they are of opinion that there is not sufficient evidence that leprosy is maintained or diffused by contagion, indeed under the ordinary human surroundings, the amount of contagion which exists is so small, that it may be disregarded, and no legislation is called for on the lines either of segregation, or of interdiction of marriages with lepers.* In all their enquiries they only apparently met with a single instance in which there was evidence of contagion which could not be thrown over; and in not a single case could contagion, or the possibility of contagion, be demonstrated in a manner free from objection. Special attention was paid by the Commissioners to the effect of people eating with lepers, and of seventy-nine who ate and drank for some time out of the same vessels with two hundred and five healthy people, of the latter, seven per cent became lepers in families, explicable they say by the fact, that the members of a family are more likely to be subjected to the same abiding external causes. The subject is discussed then from different aspects, its contagiousness in a family, between man and wife, and it is astonishing, the Commissioners say, how seldom the wife catches the disease from her husband, or *vice versa*. Bacilli as is known may be found in the spermatic tract, and here there is an oft repeated opportunity for inoculation through the genital tract. Yet a case is hardly found where *bona fide* the disease may be assumed to have spread from husband to wife.

Next, vaccination which has been mentioned as a source of diffusing leprosy, is not borne out by facts ascertained in India by the confusion of the general population, the number of persons really vaccinated, and the results therefrom. The results of Dr. Arning and of Surgeon Major Oswald Baker's experiments removes much of this doubt, and it is evident that practically there is no risk of a diffusion of the disease in vaccination from arm to arm. It is said that arguments are against the spread of leprosy amongst the population from a leprous community. The Census Returns if not of absolute value, still they support this contention. At Tarn Taran there are always an accumulation of lepers on account of the supposed healing powers of its holy tank, but no diffusion of the disease has occurred amongst the permanent inhabitants there. The number of lepers have remained stationary, at least, have never increased beyond the usual ratio. It may be remarked that, it is an almost universal opinion amongst scientific and intelligent men in India, "that the spread of the disease has never been known to take place from a leper centre to its neighbourhood."

Owing to a belief in some parts of India that those who go barefoot are liable to be inoculated through wounds, they refer to one station in Burmah, which they visited where leprosy had spread amongst the members of a school, after lepers had been in the habit of walking about the grounds. On examination it was found that several of those supposed to be suffering were free from disease, and therefore this statement was considered doubtful. An examination of the paths and banks in the compounds of asylums on which lepers were in the habit of sitting or walk-

ing, shewed ten leprosy bacilli out of one hundred cover-glass specimens, yet it is important to note, that an examination of dust from huts inhabited by lepers, confirmed the observations made by Kaurin, who has not succeeded in finding bacilli in the earth, dust, or in the rooms of lepers. The experience of the Commissioners during their enquiries "that healthy individuals who either voluntarily or for various reasons lived with lepers in attendance on them, and who had been eating, drinking, and smoking with them, yet they remained untainted often after many years, and is therefore practically against the spread of the disease by contagion." Out of one hundred and four persons living with lepers in asylums, only one or possibly two became lepers. The dangers then of diffusion are very small, and as experiments cannot be made on man, deductions, therefore, can only be drawn from clinical evidence, which, for India, is strongly against a measurable contagiousness of leprosy. The disposition of the individual plays an important part, and therefore, contagion is reduced to a minimum. But whilst we are in possession of the bacillus Lepra discovered by Hansen, we must admit that the infective nature of the disease has been shewn; but that contagion can here be considered a relative term, has been borne out by much testimony, as a result of the enquiry.

The sixth chapter deals with sanitation, diet, and diseases in relation to leprosy, as factors explaining its spread. Having in the first instance dismissed the idea of hereditary contagion, other conditions are looked for to explain the ætiology of leprosy, and the means of diffusion of the disease. Regarding hygiene, exposure to hardships and privations, filthy dwellings or want of personal cleanliness, although not predisposing specially to leprosy, the Commissioners say, must necessarily aggravate and accelerate it. Regarding food, no evidence was obtained regarding any particular kind of food being the causation, or predisposing an individual. Special attention seems to have been given to the old theory lately advanced by Mr. Jonathan Hutchinson regarding the consumption of fish, but with negative results. The want of salt also, is dismissed as being responsible for the origin or maintenance of the disease. Water, which is believed not only in India, but in China, to be the means of infection, shares the consideration of the Commissioners, and in not a single instance could the leprosy bacillus be detected. Water therefore, can hardly be said to account for the propagation of leprosy. Enquiry was also made in the direction of transmission of the disease from animals to man, but no instance was met with. The Commissioners say, leprosy, therefore, must be considered exclusively a human disease. The effects of premature marriages, the consumption of opium, alcohol, and other stimulants were also enquired into, but with entirely negative results. The races of India must be regarded upon the whole as decidedly temperate, although certain classes indulge to excess in opium, tobacco, Indian hemp, etc.

The question of the influence of certain diseases, such as syphilis, malaria, scrofula, etc, in their bearing on the affection was also considered, with the result, that there *is* no scientific evidence to shew that they cause leprosy, and the general conclusion regarding hygiene, diet, etc, is the same. After a full consideration of the circumstances of the life of the average native of India, we note, that neither the form of diet, nor the sanitary environmnt of the individual, have any specific action in the causation of leprosy; but the Commissioners say, that conditions which lower the vital powers of the organsim, such as bad hygiene, deficient and improper food, poverty, exposure, syphilis, are all factors of great importance in rendering it more susceptible to attack. Such indirect and non-specific causes are said to be specially operative in the case of the offspring of lepers, who are commonly beggars, and living under the most unfavorable conditions of health. In this connection nothing has struck the Commissioners more forcibly during this enquiry, than the improvement in the general health of the sufferer, which is consequent on residence in a well-conducted asylum; where cleanliness, and regular diet are insisted upon and maintained.

The seventh chapter is devoted to the treatment of Leprosy. The Commissioners had very little opportunity of examining personally the effects of the different forms of treatment, but from information gathered from officers in charge of lepers, from Government Reports, and from the various works on leprosy, they conclude that the incurability of leprosy by any means yet known is unfortunately certain. They offer however the following as a palliative treatment. The best procurable sanitary conditions, pure air, nourishing food, a moderate amount of fresh meat and vegetables, and abstinence from salted meat or fish. The various medicines, which have been tried for leprosy are then discussed, and the ones which seem to have produced the most favorable results are arsenic and chaulmoogra oil. Where surgical interference is necessary, much may be done to relieve the leper; but it may be stated as a general rule, that any operation which would be undertaken on another patient may be performed on one suffering from leprosy, the healing power of the tissues after operation is remarkable. Nerve stretching has yielded good results in leprosy, but it cannot be claimed as in any way curative. Excision of tubercles, deep cutting operations to relieve intense pain, or for the removal of dead bone, tracheotomy, keratotomy, and iridectomy, have all been done with beneficial results. A table of the results of medical and surgical treatment adopted in various Indian stations is given, from which we learn, that no one is returned as being positively cured, some as "slight relief," others as "temporary relief," &c.

The Commissioners offer some practical suggestions in concluding their Report. Absolute segregation they say, is not necessary, nor is it possible, nor is the decline of leprosy attributable to compulsory segregation. In India complete compulsory segregation is impossible; and if the conclusions at which the Commissioners have arrived be correct, we do not see where the necessity of segregation comes in, except it be founded on personal objections to the loathsomeness of those afflicted. They say the presence of a leper in a healthy community is a source of no greater danger than one suf-

fering from tuberculosis, as both diseases are contagious in an equal and nominal degree. Voluntary isolation is therefore the only measure left for consideration, and every means should be permitted to encourage this, and to help in this direction they say, the plan might be easily carried out by permitting marriages amongst lepers. They recommend that lepers should be prohibited from trading in articles of food and drink, from carrying on the trade of prostitution, the occupation of a barber, washerman, and those which concern the food, drink, and clothing of the people generally. The concentration of lepers into towns and cities should be discouraged, although no harm is likely to accrue from their soliciting alms on the roadside; yet disgust and fear rarely permit their relations to the general community being intimate; and therefore, they suggest that municipal authorities be empowered to prevent vagrants with this loathsome disease from begging in or frequenting places of public resort, or using conveyances. They then suggest that the present asylums in large provincial towns be enlarged, and they also point out, but not positively, the advantages to be derived from leper colonies, the produce of the land to go towards supporting the leper residents. They believe that by means of improved sanitation and good dietetic conditions, a diminution of leprosy will result; and they agree with most authorities that the decline of leprosy in Europe has been principally due to improved hygienic habits and surroundings, and increased and material prosperity.

These then are the conclusions and recommendations of the Commissioners. Whether all medical men will accept them we do not know; but one thing strikes us very forcibly, and that is, beyond placing before the public a mass of facts in the shape of a volume, which facts existed in a scattered form before, the Commissioners have done very little else. Perhaps nothing more was possible under the circumstances, and in the present state of our knowledge. Some have even gone so far as to say that the Commission was a waste of public money. We however, do not think so; for although absolutely nothing new has been elicited, yet we have now placed before us collected data and general principles on which we can guide ourselves in future investigations and enquiries. Many of the statements made by the Commissioners could be subjected to the severest criticism; but as our object at present, is only to place before our readers what work the Commissioners have done, and the conclusions they have arrived at, we will leave the remarks we may have to offer for a future issue.

THE Social conditions of life now put a severe strain upon our mental and physical being, in all conditions of life, and in every part of the civilized world. Of course, there are old world corners still, where every thing proceeds in a sleepy way; such localities are chiefly under Mahomedan rule, and we have many such places in India; but we are occupied for the purposes of this article with Europe and America. Life in Europe is lived at such a high pressure, whether we regard it from a business point of view, or from a social standpoint, pleasure and amusement has almost ceased to be so, the old happy way of enjoying those hours of life devoted to amusement which obtained for England the title of 'merry England,' and France that of the 'pleasant joyous land,' has passed away. In America life is lived so fast that people there have no time to take their food, and from such neglect the consequent result is dyspepsia, which is now a national complaint. The strain now-a-days begins from the school room, and follows the child through its stages of life; often being too tense and snapping life in youth or middle age. The medical profession is continually presented to new forms and varied complaints calling for new methods of treatment, but the old simple method of sea voyaging is still the best, and is one that is relied upon by the physician as the best pick-me-up. It is no use declaiming against the times and the modes of life adopted in all large civilized towns; the habits of life will not be altered for all our declaiming, and we should say cannot be altered.

Medical men must accept the state of the times, and arrange to meet the circumstances of the present, since they cannot reform or model as they would, they can meet the circumstances of the present by wise counsel and judicious treatment.

The medical men of to-day who wish to be successful, need to be men of liberal culture, need to cultivate large sympathies, which only liberal culture can give. These characteristics for medical men are necessary, for there are nervous complaints with such indefinite symptoms, if we may say so, (complaints originating from the abnormal tension of the life we live), though with serious results, that to a medical man with narrow sympathies the complaints of a patient would appear to be mere whims. The upper classes of society both in Europe and America, have especially, to endure a high nervous tension in their daily life; the calls of duty, the requirements of society for social intercourse and amusement are numerous, and sometimes extreme. In India, life for Europeans of the upper social class has even a greater nervous strain to endure in the enervating influence of the climate, no wonder medical men out here, are so often confronted, especially among ladies, with that difficult and worrying (for the medical man) complaint, nervous prostration, from which it is so hard to rally patients or pick them up, restoring them to pristine vigor. Well, whether in India, Europe or America, life among the upper social class is lived so fast, that it may be called racing, or running through life above natural speed. The old quiet, peaceful method of living, of our grandfather's days, has passed away for ever, and strange it is that few regret it. Every one complains that life is too fast, but few have the courage to seek to live after the old way.

Out here in India life indeed is lived too fast; even in the hill stations in summer time; life there should be lived in a sensible quiet way, for people seek these hill stations as health resorts; but we find that amusement and gaiety, occupy them entirely, and life is lived there even faster than in the plains, the candle is veritably burnt at both ends; so that the resorting to them for health has become a plea with many.

These hill sanitaria should be visited as people visit the Saline Baths in Germany, where they undergo a discipline in daily life, the old way of living, even if a routine is put aside for a time, and people at the Baths live by rule, quite a new and systematic way, even in the matter of exercise and amusement. It is owing to this submission to judicious governance that people are so much more benefitted by sojourning at the German Baths than by visits to any other similar institutions in other parts of the world, or to other health sanitaria.

In America the resident physicians at the Saline Baths complain that, visitors are uncontrollable, and therefore, benefit little by their residence at the Baths; these doctors say the American people are hard to govern on their own soil, there they think that the equality proclaimed by their system of government, must be carried out in every place and under all circumstances, even when under such medical treatment. All men are equal is their boasted prerogative and therefore patients are unsubmissive; yet those very people when abroad cheerfully submit to the wise rules of the German establishments, and benefit considerably by their sojourn there.

The discoveries of science have indeed been so rapid and so wonderful, and its adaptation to the requirements of life so remarkable, as to have revolutionised our manner of living. Simply stated, society's members mostly live uneasy lives, because they live unwisely or unhealthily. They tax their vital resources too heavily, and use up in a few years, what should last a lifetime. Even outside of society's members the strain of living is felt by all classes, and hence the growth and popularity of the use of stimulants, whether alcoholic or otherwise, till now, even the most strenuous advocates for the use of alcoholic stimulants, feel that the present habits of life call for too free a use of them, and this use should be restricted; but when this is done some other stimulant is often substituted; sometimes morphine injections, at other times opium. The habit is too readily acquired of stimulating the system with wine at breakfast, and sundry pegs during the day at intervals, winding up the day with a free use of wine at dinner; many follow this up with a "night cap". This is certainly not a wise way of living in a hot climate like India, or a damp *steamy* place like Bengal.

The daily use as a beverage and stimulant of beer, wines and spirits may be necessary in a cold climate, like that of Europe, and its use in moderation may even be beneficial, but we could not rightly advocate the use in India in a similar manner of spirituous stimulants; we believe it is a most reprehensible practice. Stimulants, however, are necessay, even essential, but they should be of a recuperative character, such as open air living, exercise and judicious dietary, coupled with a reasonable manner of life. The best stimulant in every case where circumstances permit, is a sea voyage, which should be long enough to completely restore the failing vitality, and to rebuild, by its tonic influences, the enervated body. It is a pity, and and it is strange, that the citizens of Calcutta have not their Bologne Surmer, or Torbay, or Brighton, within easy reach of Calcutta by steamer. There are many suitable and picturesque localities for sea-side resorts scattered along the coasts of our Bay; and it is a wonder that enterprise is wanting, it is a venture that would certainly be remunerative. We suppose such health resorts must come in time, and that our falling rupee will expedite the time, preventing to a great extent the sea voyage to England to restore failing energies.

Sufferers from chronic malaria are benefitted in a remarkable way by a sea trip, which however should not be too short; not under a three weeks voyage at the least, of course the longer the better. The congested inactive liver is depleted and resumes its functions, the swollen spleen diminishes in size, the face quickly loses its sickly swollen appearance and color, chills and fever cease, the bowels become regular, appetite and sleep return, and vigor and flesh increase daily. In other forms of toxæmia, as also in gout, there is a marked amelioration shown by taking a long sea voyage or ocean travel. As a fact, nearly in all diseases ocean travel produces marked benefit, and in nervous complaints it is a panacea. To the jaded, wearied, over worked man, a sea voyage is the finest pick-me-up. The atmosphere of the ocean has a tonic influence on muscular tissue, and is therefore, of great value in maintaining that compensation necessary in valvular diseases of the heart; the inevitable occurrence of dilatation has been known to be put off as long as possible by a sea voyage. A sea voyage of a few weeks duration is beneficial for fatty degeneration of the heart, and we believe it produces favorable results in angina pectoris.

To those who have just recovered from an exhausting illness, a sea voyage is an inestimable boon, nothing else will restore and build up health and strength so quickly. We have known many patients enervated and profoundly depressed from the effects of epidemic disease, who have received signal benefit from a sea voyage, and in some cases even from a short sea trip. We remember one particular case a few years ago, where a patient who had recovered from a severe attack of typhoid fever did not seem to get on at all, and was sent to the hills. A prolonged residence at Darjeeling produced little improvement, and he came back quite unable to resume his work. He was then sent to Hongkong and back in the same steamer, not residing on shore. He was so much improved by this short sea voyage of a few weeks when he came back, that he looked better, felt stronger, and was more cheerful than before his illness. In another case a patient after a severe illness could not gain strength nor pick up at all, and was in a most unsatisfactory state; he was sent the round voyage to Rangoon, and Singapore, and back, with the result that he was so much improved on his return as to be able to resume his work, and has since been working steadily, and at laborious mental work, for over twelve years with only one short trip to Europe. We all know how beneficial and restorative a trip to Colombo and back with a short residence there is, it is a most popular trip.

The effect of sea air or ocean climate is most conspicuous in scrofulosis. If we take the cases of scrofula, of weekly children, we have to note that, a marked amelioration is effected

in those eruptions to which they are especially liable, and in the respiratory and gastro-intestinal catarrhs from which they suffer. In the glandular characteristics of this disease, the advantages of this therapy are most plainly seen. Glands which were previously enlarged and hardened return to normal size and consistence, skin diseases too, are more amenable to medicinal treatment during a sea voyage.

Special conditions of life have decidedly limited the power and usefulness of the medical art, and though the advantages of physiological medicine are great, yet, many of our patients are either unwilling or unable to avail themselves of these advantages. Many are bound to ill-paid toil, others again are immersed in money making, while some are engaged in some important undertaking and are pledged thereto. These are the various hinderances which scarcely permit relaxation. These people have no time and often no will, and there being no will, opportunity is wanting for holidays; they could not go to sea, impossible to get away! They demand of the physicians they consult, that, while their conditions of work are unchanged, while they permit themselves no relaxation, their systems should be braced up from time to time by the use of drugs. But medicines or tonics, however well chosen, cannot take the place of rest, or that of pleasure, or of relaxation. It has been well said, that an occasional holiday is an economy of time. If time or money cannot be spared for a voyage to Europe, the trip of a few hundred miles along the coasts of our Bay can be soon performed. If money fails, a trip in a sailing vessel is very inexpensive.

Medical News Letters.

LONDON LETTER.

[FROM OUR SPECIAL CORRESPONDENT.]

PERNICIOUS ANÆMIA.

AT a recent meeting of the Harveian Society, Dr. William Hunter read a paper on this subject. He said that formerly the diagnosis of the disease was arrived at by a process of exclusion, and that no anæmia could be termed pernicious, unless it could be proved not to belong to any of the other, and better known forms of the disease. Recent researches enabled him to rest his diagnosis, almost entirely, on a consideration of the changes in the blood, the character of the urine, and certain associated symptoms pointing to disturbance of the liver function. He stated that pernicious anæmia was due to an excessive destruction of blood corpuscles which was intermittent, and limited to the portal system, so that all the products passed through the liver; the cause of the destruction being the absorption into the blood of poisonous material from the gastro-intestinal tract. The chief clinical signs of the blood destruction, are (1) in the blood, a higher percentage of hæmaglobin, and a greatly diminished alkalinity (2) in the urine, a dark colour and in some cases blood pigment, (in fatal cases blood pigment is found in the renal cells); (3) as regards the liver, slight periodic attacks of icterus of conjunctivæ, or other evidences of liver disturbance. He maintained that the chief work of disposing of the hæmaglolin, set free, devolved upon the liver, and therefore, that the extent of destruction going on could be best guaged by having regard to the character of the urine, and to any disturbance of liver function. He regards the disease as an infective one localized to the intestinal tract, and so directs his chief treatment to that part. Reliance should be placed upon antiseptics, the best being beta-naphthol, and salol, together with arsenic, when that drug can be borne.

Drs. Pye-Smith and Hale White added testimony in favour of Dr. Hunter's views. The subject is of especial interest, as until lately the disease was considered to be incurable.

DEATH OF LADY LISTER.

All the medical profession in London are sympathizing with Sir Joseph Lister in his bereavement, by the loss of his wife, Lady Lister, who died in Italy last week. She was the daughter of the famous Syme of Edinburgh, and took the greatest interest and gave the greatest assistance to Sir Joseph, in all his scientific investigations.

EXTRA-UTERINE GESTATION.

A series of cases of this nature were brought before the Obstetrical Society, at a recent meeting. Five cases were described, four of which had been operated upon, all with success, and one proved fatal before an operation could be attempted. The cases were brought forward by Drs. Cullingworth, John Phillips, and Stevenson. In all the cases the fœtus was situated in a cyst, between the layers of the broad ligament, and pregnancy had advanced to term. During gestation there had been some slight hæmorrhages from the uterus together with abdominal pain.

In the discussion which followed the papers, the general feeling of the meeting seemed to be in favour of immediate abdominal section being performed, if the diagnosis was made within the first six months of pregnancy. If however, the condition was not discovered till after the 6th month, it is advisable to wait till term, so that the child may also be saved. The authors were congratulated upon the success of their cases.

INTRAVENOUS INJECTIONS OF SALINE SOLUTION FOR SHOCK, NOT CAUSED BY HÆMORRHAGE.

In the *Medical Reporter* for December 1892, I brought before your notice the use of Intravenous Injections of Saline Solution during collapse after severe hæmorrhage.

At a recent meeting of the Clinical Society, Mr. Mayo Robson read a paper, advocating the use of similar injections, in cases of shock, not due to loss of blood. He alluded to two cases, one a large fibro-myoma, in neither of which had there been any serious hæmorrhage, but nevertheless the shock was intense. In these cases of shock without hæmorrhage, the bulk of the blood is drawn into the portal system by paralysis of the vasa motor centre acting through the splanchnic nerves, causing dilatation of the portal system. The addition of four or five pints of saline fluid to the blood vessels, will enable the heart to carry on the circulation until the vaso-motor centre regains its power over the portal system. He added that, in

all cases of major operations, he now always includes with his instruments, an apparatus for saline infusion.

Dr. Remfry, and Messrs Battle, Bidwell, and Burghard mentioned cases in which they had employed infusion for shock apart from hæmorrhage, and agreed with the author's theory of its action.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

The election to the office of President has just taken place, and Sir Andrew Clarke has been re-elected for the fifth time by an overwhelming majority. It is a very uncommon occurrence for the same physician to be re-elected so many times, and Sir Andrew's re-election shews how much his services as President have been appreciated. Among the other Physicians who received votes were Sir Joseph Fayrer, Sir Dyce Duckworth, and Dr. Wilkes.

This College has lately been engaged in a lawsuit against the General Medical Council. The Medical Council refused to accept, for registration, the qualification of Licentiate of Royal College of Physicians alone, and affirmed that, under the Medical Act of 1886, an additional qualification in Surgery was required. The College of Physicians maintained that the L. R. C. P. was a surgical as well as a medical diploma, and as such entitled the holder to registration. After a careful consideration of the Charter and bye-laws of the College, Mr. Justice Mathew, decided that, the diploma of Licentiate of Royal College of Physicians, London, entitled the holder to have his name placed on the Register by the General Medical Council, without any other surgical diploma. The action of course was of a friendly nature, and the result is interesting, as it gives a decided advantage to the College of Physicians over the College of Surgeons, the diploma of Member of the latter body, not entitling the holder to registration, without a separate medical diploma.

Transactions of Medical Societies.

THE CALCUTTA MEDICAL SOCIETY.

The fifth meeting of 1893, was held in the Medical College Hospital theatre, on wednesday, the 10th May, 1893. Dr. K. C. Bose in the chair.

Dr. Moir read the notes of a case of dislocation of the fourth cervical vertebra and intervertebral cartilage, in the case of F. Williamson, a European sailor belonging to the ship *Bactria*, who found his way into the Fort, and got drinking with the soldiers garrisoned there, in their canteen. The last that was seen of him, was at 9. 30 P. M., he was leaving the Fort by the Calcutta gate, as it was being closed. On coming out he sat on the rail over the drawbridge, and losing his balance fell down into the moat about twenty feet. When found he was removed to the General Hospital where he died on the 3rd of May, from dislocation of the spine. On admission though conscious he could give no account of himself. His pulse, respiration, and temperature were normal, and he had a few small bruises over the left side of his face. There was paralysis of the extremities, also of rectum and bladder, anæsthesia as far as the costal arch, and up to the left elbow; on the right side up to insertion of the deltoid. Complained of pain and tenderness in the neck when attempting to move his head from side to side. The right pupil was slightly dilated. The anæsthesia, extended upwards to an inch below the nipple. Temperature rose to 106°F, fell in 2 hours to normal, then became subnormal, and remaind so till he died. Pain was very acute at night, articulation impaired, abdomen tympanitic. He expired at 4-40, and a *post mortem* examination was held four hours after death. The lower limbs were found quite rigid, both arms were semiflexed, the side of face was ecchymosed, brain not congested, but the cord was in a state of congestion. The fifth cervical vertebra was found to be projecting backwards over the fourth. There was no extravsation into the muscles of the neck. The first six cervical vertebræ were removed. The body of the 5th was one inch behind the 6th, the dura-mater was not ruptured, the posterior ligament and ligament subflava were ruptured, and the anterior slightly so. It was therefore evident that there was a fracture besides the injury to the spine. The subject was a short thick-set man, with a very short neck, and no irregularities could be detected during life; but the concussion and dislocation was evident from the paralysis, which shewed a lesion at or about the 5th, and there being no dyspnœa shewed it was about the 3rd. According to Erichsen, dislocations of the cervical vertebra are very rare between 5th and 7th, but more common at 5th, if the interspinous ligaments are injured no fatal consequences follow, and integrity is regained by rest. In the case of the ligament subflava, Sir Charles Bell says, the progress of the inflammation to the spinal marrow must be anticipated, which makes these cases end fatally. Very often the inflammation goes up to the medulla. The injuries were apparently slight and shewed that he fell in a favorable position. He was high up, and the sudden fall are all points of interest. The man died suddenly.

The President.—He remarked that the phrenic arises from the 3rd and 4th, the injury was between 4th and 5th, so the phrenic escaped

The second case brought before the Society was that of a native boy about 5 years of age. He was transferred from Dr. McConnell's ward to that of Dr. O'Brien's, the second surgeon, for a cystic tumor of the abdomen.

History.—Had intermittent fever for some time as an infant, and the abdomen began distending till he was two years of age. Had an attack of dysentery, and was put under a course of iodide of iron syrup, the tumour subsided and he continued well. Had fever again in his fourth year. In the month of April last year. he fell against a club on the abdomen. After this accident he passed a deal of blood on the next day, about one ounce, and then passed it also with the urine. The hæmaturia lasted for two days. The swelling subsided. Two months later it gradually increased till it attained its present size.

Condition on admission.—Was well nourished, lungs normal, liver dulness higher than normal. The abdomen had no sharp edges on right or left side, oval, elastic, fluctuation well defined, thrill on palpation, dull on percussion from the 7th rib to iliac region. A coil of intestine could be felt over the tumor on the right side, this would appear to be the displaced descending colon. The circumference of abdomen is 21¼ inches 2 inches above the umbillicus; on admission it was 26 inches. The case was diagnosed as one of hydronephrosis. The history was unsatisfactory. Turning to dates, the disease is traced to the date of injury in April, 1892. The hydronephrosis thus far has a traumatic origin, which is very rare.

Treatment.—The treatment I adopted was tapping at the left ileo-costal space, and I removed 90 ounces of a watery fluid. It had a urinous odour, was clear and of a pale straw color, specific gravity 1000.5, with a small quantity of albumen. It was not examined for urea. On the next day urine was passed through the urethra, the reaction was acid, of lower specific gravity, with a trace of albumen. He was again tapped on the following day. The operation was done eight times, the last occasion being on the 22nd March, after which a drainage tube was introduced. Since then a urinary fistula has existed.

Continuing, Dr. O'Brien said.—In cases like this Morris suggests the application of massage, as it is very often due to blocking up of the ureters. Dr. Coghill in 1875, in the *British Medical Journal*, reported one case from which he removed 4½ pints of a straw colored fluid. Dr. Crofts reports a case in which he tapped twelve times in three months, on the last occasion removing 38 ounces of fluid, and a complete cure followed. The obstruction is very often due to a clot. Of 18 cases reported by Morris, ten were cured. I expect a cure in this case.

The question of laparatomy in a case like this one is encountered with much danger, the cyst being so very large. Mr. Morris remarks regarding nephrotomy that, it is a correct procedure when aspiration fails, and is very successful before nephrectomy. Seventeen cases are reported by Staples and all were cured. In a few cases the wound will close, but fistulæ should be dealt with by application of the button.

A question which arises in cases of children born with a large abdomen, if there is any malformation of the ureter also? It is interesting to enquire if the child passes urine during intrauterine life and what becomes of it. It is known that the liquor amnii is considerably influenced by the urine, analysis shews it contains urea in an appreciable quantity, during gestation urine is passed, and the ingredients of urine are absent in the liquor amnii in cases of hydronephrosis.

The President.—He said that the Society was greatly indebted to Dr. O'Brien for the case be had brought before them with its interesting details. The patient was of tender age and the treatment adopted did Dr. O'Brien much credit, although there was still the opening remaining, yet there was hopes of even that closing. The operations of nephrectomy and nephrotomy were being frequently resorted to now-a-days. Mr. Morris in his book speaks very satisfactorily about these procedures, but what is to become of the remaining cyst, and it is interesting to know if one would be justified to wait and temporize.

Dr. Bose then read a paper on "Some points connected with Cholera". He first dealt with the obscure history of cholera, referred to allusions made by the Chinese and Mahomedans in their sacred writings, to the writings of Caspersz, Sydenham and MacNamara. Cholera he said had selected Calcutta as a centre of infection and from here it was transferred to different parts of the world. The reason why it was so, was interesting. The soil of Calcutta was soft, the summer was a prolonged one, and the winter comparatively short, the rainy weather extending from the 15th June to end of August, the average rain fall being 66 inches. The highest temperature 100°, and the lowest 60°. The climate was hot and moist, and therefore was favorable to the growth of the micro-organism. The northern portion of the city was occupied mostly by Natives, the houses and locality being in a very insanitary condition, the southern part which was healthy and well looked after, was occupied by Europeans. Of the population of Calcutta only 29 per cent belonged to the place, this number being born here, the rest come to it from other parts. In the northern part of the town, the building arrangements were very bad, the very poor lived in bustees, each bustee having a tank in the centre. The water from these tanks is used for cleansing cooking utensils, purposes of ablution, and what is most revolting, this same water was used for drinking purposes, owing to the occupants of the bustees being too lazy to get water from the taps near by. From these bustees the infection begins in many outbreaks of zymotic disease. He remembered an outbreak of cholera which occurred when he was attached to the Campbell Hospital, about fifteen years ago, and the first cases were either from Entally, Manicktolla or Karaya. Those attacked are nearly two-thirds recent arrivals. The sources of access into the town are very often very difficult to trace. In the year 1889, Dr. Simpson drew up a form of death certificate, which, if continued, would have thrown much light on this important question. The sources of conveyance are twofold, those within the town, and those from without. Those within are mainly sanitary defects. In the native por- of the town, the streets are very much neglected, for instance in Burra Bazar, the streets are not even cleaned once a week. Cholera and typhoid may arise from the underground system, and the system as it is, cannot be properly carried out in the native portion of the town without danger to the health of the people. Much improvements have of course been carried out within the last twenty years, but until things are brought to the notice of the Health Officer, very little care is bestowed on the native portion of the town, debris and other refuse lie about the lanes for many days, and very often in a state of putrefaction. In case of death from cholera, small-pox, etc, the bedding, pieces of rags, etc, are thrown into the streets, blown by the wind and very often stick near a water-pipe, till the *domes* come to collect old rags, etc, for the purpose of sending to England, to the paper factories, and thus the disease is carried with all its mischievous results. Another source of mischief to be found in some of the native

houses is that the tap with filtered water is near the latrine, and a drive to the neighbourhood I have referred to, would convince the most sceptical. The *bhistees*, and *goalahas* with their adulterated supplies, are sources of mischief from without the town, and if the germ theory of infection is correct with reference to cholera, then milk is the best medium for the bacilli. Of course, many use boiled milk, and others use raw milk. In the lecture Dr. McLeod delivered some time ago on milk, he left nothing unsaid, and to mention anything in connection with the subject, would be merely a repetition, but it is interesting to know if boiling destroys any poison, either in the milk or water, as it is known that ignorant confectioners who come into town bring cholera with their milk.

So far the factors of infection and spread of cholera have been noticed, and in passing I may mention, that good filtered water is of more value than one hundred therapeutical agents, which article is in many instances under certain circumstances denied by the Corporation. As instances of their proceedures, I will mention one case of cholera which happened the other day at Manicktollah, and the cause was traced to the consumption of foul water, the municipality having disconnected the filtered supply owing to the municipal water rate not having been paid. The medical attendant made an application to have the connection restored, but it could not be done without payment of the rates.

Cholera is often caused by the indiscrimnate use of food kept in tins, which has undergone changes, such as lobsters fish, meat, etc. He referred to the *Crofton Hall* tragedy, and the attack of cholera on that vessel following consumption of meat unfit for food. Fruit in an unripe condition is very often the cause of cholera, such as mangoes, leechis, etc. Another cause of cholera in Calcutta was, the filling of tanks in bustees with garbage, which instead of being the means as Dr. Payne thought, at the time, of preventing cholera, several lives were lost through outbreaks of the disease as a result. Dr. McLeod, however, when he was Health Officer carried out the filling up of some of these tanks with very great care, but not with garbage, and Dr. Simpson has improved the condition of the bustees by excavating filthy tanks, which is a decided improvement on the other methods.

It may be said that there is no season which is favorable for the outbreak of cholera, it may appear at any time, but the summer seems to be the most favorable. In March, April and May, the mortality is very high. During the *holi* festival, the natives take in all kinds of food and drinks, they use opium, bhang, and sweetmeets, and this with debauchery and irregular meals. They cover their bodies as is known with red paint and cholera at this time generally breaks out and dozens die. In Orissa during the *rath jathra* festival, a number of deaths occur, also at the *kumbh mela* and the *ardohya jog*, the disease abates after the festival is over. In the sections D. E. F. G. and H. of the town, when there is a case of cholera, the discharges, soiled rags, etc, are very often thrown into the streets, or if the stools happen to fall on the floor of the house, they are covered with ashes and then removed to be thrown outside of the door of the house. In houses of the poor or in places where gunnies are piled for sale, if a case of cholera occurs pieces of gunny are used to wipe up the stools and vomit of the patient, which are afterwards sent to the *dhoby*, and then used for making gunny bags.

The question whether cholera is contagious, may be answered from the experience of our hospitals where nurses and relatives attend on these cases and keep perfect health. Dr. Bose mentioned where a native mother had been nursing her child who was suffering from cholera. Although contact could be no more than in this case, the child was in her arms all through, and her hands were simply soaking with the cholera stools, etc, yet she escaped. The conclusion is that cholera is not communicable to man, and is only so when the alimentary tract is infected. Several deaths which are occasioned by diarrhœa and strong purgatives are returned under the heading of cholera, and the mortality return of our city therefore cannot be depended on. The germ theory of cholera which has lately been advanced says that, cholera is produced by a micro-organism, the comma bacillus, and the nature and mode of culture is given in our standard works, and this has recieved the support of Professor Cunningham. For want of time however I am not able to discuss the question, but one thing is quite clear the idea cannot be claimed by recent authorities as original, it has existed since the eighteenth century, but as the microscope was not then in existence the scientists of those days could not bring these micro-organisms within view. We have bacteria in the air, and they go on multiplying there to countless numbers. Professor Koch however, has discovered the way out of the difficulty as it were, with reference to the bacillus in cases of cholera. He found under favorable circumstances, these bacilli are destroyed by acids, and that they themselves do not induce the symptoms, but the ptomaines which they produce do so. It would be interesting to know what length of time is necessary for the formation of these ptomaines, and how the theory that bacilli exist in the saliva and water can be supported is hard to conceive. He mentioned a circumstance which occured a short time ago, which perhaps would support Professor Koch's theory. A party of 22 men went to *Kalighat* and stayed near a filthy tank, they all ate and drank equally, and after performing their rites they returned home. Nine of these men were attacked with cholera and died, the other thirteen were opium eaters and were not attacked. Dr. Bose then concluded by referring to immunity from cholera after one attack in connection with recovered cases of cholera in native houses.

Dr. Simpson.—Dr. Bose has made certain statements regarding the Municipality this evening, which sound like charges against the Corporation. As the hour is late I must defer my reply till the next meeting.

Dr. Raye.—He thanked Dr. Bose for his interesting paper, and said that the discussion on it would be continued at the next ordinary meeting of the Society.

Current Medical Literature.

NOTES OF A CASE OF SCARLET FEVER.

Dr. H. K. Tavaria read the following notes of 'A case of Scarlet Fever.'

I saw the case of fever—which I have ventured to call 'Scarlet Fever'—on board a 'B. I. S. Boat,' while on a pleasure cruise to Bussreh during the last October vacation. Owing to this and to the fact that the true nature of the case was not suspected till about the termination, the case was not investigated as fully as I should have wished. In 'spite of this, however, I trust there is enough material in the following notes to enable me to venture a diagnosis, on which I beg to invite discussion.

A Siddhi boy, aged about 9, belonging to the captain of the ship, since his rescue from a slave boat in the Persian Gulf, suffered from colicky pains, the result of swallowing about 22 bannanas, offered for fun by the passengers, and was feverish. The pains subsiding, his mouth was found very foul and sore, throat congested, tongue furred and bare in patches; an opening dose, warm lead gargles and tannate of glycerine paint were resorted to. A painful gumboil was poulticed from without and lanced on the following day. Two or three days after the fever went up to 104°, without any sneezing or cough preceding it; skin was very dry and harsh and eyes suffered. Tepid sponging with vinegar followed by quinine caused a fall to a little over 101°, which returned to 104° during the night, eruptions appearing on the face the following day. During the following week the eruptions spread to the neck, upper and lower extremities and the trunk, in the order mentioned. On the boy's jet-black skin, no difference of colour from the surrounding skin was noticed in the eruptions, except that the latter were slightly fainter dark, nor was any flush noticed. The eruptions, commencing in little granules, the size of sago grains, looking very much like enlarged and slightly elevated papillæ, ran into each other, forming larger groups with clear skin between them and mostly circular in form. The temperature kept up during the week and was on one occasion found to be 105°. Patient was then very low and semiconscious. The highest temperature was noticed about the time that the eruptions had extended to the whole body. The temperature then declined, though the throat-congestion and the foulness of the mouth and tongue continued. Except one dose of Phenacetin and the ice bag for a day, tepid sponging with vinegar and quinine, were alone resorted to for the fever. As the fever declined, patient's hands and feet were found puffed up, followed by œdematous swelling of the face and chest. No marked anæmia existed. Large linseed poultices across the loins kept up for several hours, caused the swelling to disappear in a couple of days. No diuretics were used; meat and meat-soups, previously allowed, were stopped and milk and congee with bread, sago or tapioca puddings and fruit only allowed. Then desquamation of the epidermis, for the most part in amazingly large patches, followed, beginning with the neck and extremities; while this process continued all over the body down to the fingers and toes, the boy, for the time being, looked extraordinarily white for the natural colour of his skin. The dry scurfy skin was painted over with carbolic oil, which also served to subdue the slight itching. The desquamation over, his appetite returned, soup was added to his diet with stimulants, and he picked up flesh rapidly.

The specific course of the fever, without intermissions, unaffected, to any remarkable extent, by the remedies employed, the appearance and course of the eruptions, the comparatively slight throat affection which preceded the seizure and continued throughout the course, combined with dropsical sequelæ and wide-spread desquamation in large patches, and the age of the patient, point this case out, to my mind, as one of scarlet fever. The combination and order of appearance of the above symptoms, the absence of any premonitory cough and sneezing, and the nature of the sequellæ, the dropsy and the desquamation of the epidermis, which were developed to such an extent that the little fellow looked comically fat and white alternately during the progress of these—all these render it unlikely that this was a case of measles. The rash described may be no more than mere papillar elevations due to dry heat of the skin; this however is unlikely from its appearing sooner on one part of the body than the other, in a certain order, forming circular patches with clear skin between. Also the dropsy may have been no more than evidence of anæmia; which, however, was slight.

With regard to the subject of contagion, my enquiries have revealed nothing definite. The boy always accompanied the captain of the ship in his voyages to the Persian Gulf, and usually accompanied him ashore in Bombay and the ports of the Gulf. No case of scarlet fever has been noted to have occurred in the ship previous to this, nor was the captain aware that he had come across a case in any of the places he visited ashore among his friends, These facts however need not deter us from framing a diagnosis from symptoms as we all know how tenacious of life and portable the scarlatina contagion is.

In connection with this case Dr. W. K. Hatch related the history of a case he had treated while attached to the European General Hospital. In that case the patient caught the fever on board some troopship. Dr. Khory said that he also had a case of Scarlet Fever in a Parsee 15 years ago—Diagnosis was uncertain in the beginning, but as the case progressed all doubts were removed. There was albuminuria which disappeared after recovery. Dr. Dadabhoy Jamasjee said, he also had an opportunity to treat a European child for this fever, and though he had isolated the case, still another child in the same house caught it. The child probably got it from Poona where it was prevalent at the time.—*Trans G. M. Socy. Bombay.*

OVARIAN TUMOUR, OPERATION, AND RECOVERY.

Dr. Dimmock read the following notes of 'A case of Ovarian Tumour, Operation, and Recovery.'

I have to thank the ward superintendent, Miss Da Cunha, for the following notes:—

The patient, a young woman, about 20 years old, was admitted into the Obstetric Hospital for a tumour in the abdomen on the 5th February 1892.

Present History.—The complaint is of 3 years' duration. It began as a small lump in the right iliac region and gradually assumed its present size; but, barring the feeling of weight and dragging it caused when the patient stood or walked, it had never given her much trouble. There was never any pain or tenderness.

She was treated for the tumour in her native country but the drugs were given internally only; had never had any external applications. Deriving no benefit in Persia, she came to Bombay a week before admission into the Hospital. She was a perfectly healthy girl except for the last 3 years and as far as could be made out had not suffered from any specific or infectious disease. Menstruation began at the age of eleven, without the least difficulty and continued regular since then; but with the appearance of the tumour the flow became more profuse, lasting 7 days and being accompanied with lumbar pains. There has not, however, been any actual dysmenorrhœa, and there is no history of previous uterine disease.

Family history.—Mother alive and in good health and has had ten children of whom five are alive. The patient herself was married at the age of 15 years, and was delivered of a child four years ago, the labour being perfectly normal. Child alive and well. No abortion.

Present condition.—Is a young and very well-nourished woman, but rather pale, mucous membranes being anæmic; no œdema. Breasts small and areola not dark. She is not inclined to be hysterical.

Respiratory system.—No respiratory distress. Respirations 22 per minute. No cough. Movements of chest symmetrical. Percussion notes, normal.

Circulatory system.—Apex beat in the 5th intercostal space, 1½ inches below the left nipple, slow and rather feeble. Cardiac dulness, normal. Pulse, strong and regular.

Digestive system.—Tongue thickly coated, no nausea or vomiting; appetite good. Hepatic and splenic dulness normal; bowels move once daily.

Urine.—Deep-coloured, sp. gr. 1010. No albumen; no sugar. acid in re-action.

A large round tumour occupies the central and lower portions of the abdomen *i.e.* the hypogastric, umbilical and part of the epigastric regions and extending on each side fills ½ of the width of the lumbar and inguinal regions.

Inspection.—Abdomen bulges in the centre and partly at the sides, the bulging being more marked towards the right, but the flanks are quite flat. The shape of the tumour is globular and uniform and there is no alteration in shape on sitting up. Umbilicus is flattened. Skin over the abdomen is smooth; no markings. The tumour is freely movable.

Mensuration.—From the upper end of the tumour to the symphysis pubes (over the tumour) 11 inches; transversely above the level of the umbilicus, 11 inches; below the same level, 13½ inches.

Palpation.—Tumour is hard and tense, and no fluctuation is felt through abdominal walls. Skin over the tumour is soft and doughy and easily pinched up. The muscles are relaxed.

Percussion Note.—The tumour is dull all over from about an inch below xiphoid cartilage to the symphysis pubes and laterally a little beyond the nipple line on each side. No alteration with change of position.

Auscultation.—Pulsations of the abdominal aorta are heard.

P. V. Uterus of the normal size and not connected with the tumour. The sound was passed and it was found to be slightly retroverted. Cavity not enlarged. Does not move with the tumour.

11th.—OPERATION.—(Assisted by Drs. Hatch, Khory and Massina.) The patient was thoroughly prepared for operation and washed with antiseptic baths for 3 days. A purgative was given on the 10th, and the rectum emptied with an enema at 6 A.M. on the 11th. The urine was then drawn off and the patient well washed again, the abdomen and umbilicus being particularly cleansed and disinfected with H. P. lotion (1 to 1,000.)

At 8-30 A.M. she was chloroformed and placed on the table for operation in the dorsal position and the legs were tied to the table with a bandage. An incision, about 3 inches long, was made over the tumour, the upper end being just below the umbilicus. The deeper parts were then divided with a director and a scalpel, and the cavity of the abdomen reached. The tumour was seen to be cystic, it was tapped and 4½ pints of clear yellow fluid (sp. gr. 1008) drawn off and the cyst emptied. The opening was clamped, the pedicle ligatured and cyst cut out. The edges of the wound were then brought together with nine knotted silk sutures which passed through the abdominal walls about ½ inch from the edge of the wound. Iodoform and dry dressings were applied.

Pathology.—It was difficult to decide whether the cyst was ovarian or connected with the broad ligament. The ovary or a larger portion of it, enlarged and degenerated, about the size of three fingers, was found at the lower and posterior part of the growth and the fallopian tube was much elongated and extended over the upper surface of this cyst for a considerable distance.

11th. *Vesp.* Given nothing but warm water. There was much retching. Looks very anxious. Temperature 99·4. Pulse, 112, and Respiration, 28.

12th. Temperature, 100·2. Pulse, 108. Respiration, 34. Has retching and also an anxious look. Enema of beef tea was given and morphia 1/6th grain hypodermically injected at bedtime. From that time the temperature rose till it reached 102·4. The pulse remained fairly quiet. Had difficulty of passing urine which was removed with a catheter from time to time. Urine contained slight albumen. Had bloody discharge from the vagina, free from offensive smell. She was kept on beef tea, barley water, milk and mutton soup,

19th. Temperature normal, passes urine herself. Dressings were removed—Discharge healthy and not profuse. All the

sutures were removed and the wound dressed with iodoform and dry dressings.

20th. Wound was dressed. Very slight discharge of healthy pus. Passes urine herself, but in small quantity and with some difficulty.

21st. Temperature normal. The wound was dressed. Upper part has healed by first intention. Slight discharge from the lower part, of healthy pus. Bowels not moved. Tongue, less furred.

23rd. Pulse strong. Tongue much cleaner. Urine passed with slight pain. No abdominal pain and no vaginal discharge. Bowels not moved. Doing very well.

Remarks:—This case is almost an ideal operation, and I believe if it had not been for a certain amount of cystitis, there would have been practically no rise of temperature. The cystitis was of a transient nature and could perhaps have been averted if the patient had been able to drink a little more; but she positively refused the hot water even in teaspoonfuls which was the only drink allowed her and as a result the urine was concentrated and irritating. These conditions were no doubt enhanced by the inevitable inhibitory effect of abdominal section on the urine secretion.

With regard to the operation, the proceedings were very simple and can be disposed of in very few words, but I hope I shall not be considered obtrusive if I venture to offer a few remarks on the great amount of personal supervision which I devoted to guarding against septicism.

Here we have a case in which the abdomen was opened up to a considerable degree and which 20 years ago would have been considered a marvel of success, but which now is of mere ordinary account, so rapid have been the strides of abdominal surgery of late years.

To whom and what shall we attribute these glorious results? Lister and antisepticism is the talismanic reply. But even these are but key notes to the present system of antiseptic surgery, so elaborate a stage has it reached and it is with a special object of briefly referring to this system that I have ventured to accept the kind invitation of your President to read the case before this distinguished Society. In the little pamphlet which I have laid on the table you will find a resumè of the methods used by Billroth in his clinique which was written by his Assistant Dr. Von. Hacher, and has been translated into English by my friend Dr. Kilkelly of the Army Medical Staff. It is a small pocket manual which should be in the possession of every medical man, for it places him in possession of details of an antiseptic treatment (Iodoform) which have only been arrived at by the great labour and patience of a world-wide genius in surgery. It furnishes him with an account of the various dressing materials and antiseptics, and gives us directions as to their proper use and application in the different fields of surgical enterprise. I have now only to refer to special measures advocated by this great man for Laparotomy—and herein he lays down that all antiseptic precautions are to be observed with special strictness. Although I had not seen this book at the time I operated, I find that my measures were on pretty much the same broad lines, but differed in many small details. For, instance instead of sponges, Billroth uses small gauze compresses, and larger ones instead of napkins, and sponges to protect the intestines. They are wrung out of 1 to 1,000 H. P. lotion, while carbolic acid is used for the instruments and sutures. Everything is sterilized that can be sterilized and everything and everyone are disinfected. In the final closure of the wound the peritoneum is first united with a continuous catgut suture, then the muscles and deep fasciæ are brought together with knotted silk ligatures, and finally the skin is united with a continuous silk suture.

The object of antiseptic treatment is twofold, (1) to avoid septic infection of a wound during operation, and (2) to prevent it afterwards.

Sir J. Lister gives his own modern treatment as follows:—

The sponges and instruments are steeped in 5% carbolic acid solution, after a previous careful and thorough disinfection and sterilization. Towels, wrung out of the same solution, are placed around the field of operation. The sponges are wrung out in H. P. solution 1 to 2,000 and bleeding vessels are tied with aseptic catgut. The wound is then dressed with absorbent gauze charged with a combination of cyanide of mercury with cyanide of zinc, which has been also wrung out of the 5% carbolic solution.

The principles of treatment are indeed the same, but in every clinique the application of them will differ according to the ideas of the surgeon and to the materials at his disposal. In my own operation I had only the bare possibilities of antiseptic treatment open to me, and so I used solutions of sublimate and carbolic acid, and I sprinkled the wound with Iodoform which was the primitive basis of Billroth's Iodoform treatment. But herein we must always be anxious, lest toxic symptoms arise from the absorption of the drug, a consideration which urged Billroth to the perfection of his method as it now stands.

At the conclusion of the paper Dr. R. N. Khory, the President said that, he had assisted Dr. Dimmock in the operation and bore testimony to the great care and labour bestowed by him on the antiseptic measures necessary for such a case, to which mainly he attributed the successful result. He said that ovariotomy was not an easy operation, as it required great surgical skill and steady hands as well as skilled assistance. There were fortunately no adhesions in the case in question and there were therefore no complications. He said that sometimes diagnosis of ovarian tumour was very difficult. Dr. Dadabhoy Jamasjee said that he had performed ovariotomy in 1873, when the antiseptic surgery was not so far advanced as now, and when he had not the advantage of skilled assistants and other appliances. The tumour was large and contained from 20 to 30 pints of fluid. There were numerous adhesions between the tumour and the abdominal wall. The whole operation took about ¾ hour. He kept the pedicle out. The patient, however, died of septic peritonitis 13 days after the operation. One peculiarity of the case was that the patient had no vomiting up to the time

of her death. Dr. S. D. Bharucha said that he did not agree with Dr. Dimmock's unfavourable opinion about the use of sponges, and said that, with proper care they were very useful. Dr. H. K. Tavaria said that the tendency at the present day was to simplify antiseptic surgery as much as possible, which he thought was a gain as it gave greater facilities to surgeons. He requested Dr. Dimmock to inform the meeting whether he had washed the abdominal cavity in his case, and if so, if it was with antiseptic fluid orsterilished water after the manner of Lawson Tait. Dr. Dimmock in reply said that as the fluid in the sac was removed, and as great care was taken to prevent any discharge or hæmorrhage from falling into the abdominal cavity (there being no adhesions) there was no necessity for washing the cavity. He simply wiped it dry with antiseptic gauze. Whenever he wanted to use any antiseptic lotion, his practice was always to boil the water first, and then to add Hydrargyri Bichloridi lotion 1 to 1,000.—*Trans G. M. Socy Bombay.*

THE TAMPON IN MENORRHAGIA.

Lusk (*American Journal of the Medical Sciences*, January, 1893) asks: "Is the tampon a childish expedient in recurrent profuse hæmorrhages at the menstrual epoch?" While freely admitting that in the great majority of cases of menorrhagia there is a diseased condition present, as endometritis with fungoid granulation, neoplasms, displacements, etc., which can be recognized and removed by different therapeutic or surgical procedures, the author is also satisfied that cases of menstrual hæmorrhage occur in which careful examination fails to discover disease, or repeated efforts of treatment fail to relieve the periodical bleeding. Lusk has had patients with the disorder to whom he has admistered internally ergot, hydrastin, tannin, cannabis indica and viburnum, and made application to the endometrium and also curetted without removing any fungous vegetations, but all of no avail. In such cases oöphorectomy is often advised, but the author is inclined to the belief that this operation and consequent mutilation may be avoided in certain cases by the seemingly elementary and palliative practice of tamponing the vagina. The most successful method in his hands of applying the tampon is upon the lines followed by the late Marion Sims, as follows: Wads of cotton of suitable size are dipped in carbolized water and pressed into the form of flattened discs. These are introduced through a cylindrical speculum and packed into the vaults of the vagina, with the flattened surface of the cotton in a traverse position, rather than in one parallel to the vagina. The packing should cease at the urethro-vaginal septum. This treatment may be commenced upon the first day of the menstrual period, and the tampons should be replaced at the end of twenty-four hours. It is rarely neccessary to make more than two or three applications. The speedy cessation of menstruation, or the entire suppression of it by the introduction of tampons at the beginning of the flow, have not seemed to have the least injurious or unpleasant effect. The prompt control of excessive periodical bleedings gives anæmic patients an opportunity to gain strength and improved blood and nerve tone, until in time the general health is restored. The muscular structure of the uterus is also improved in tonicity, when the tampons may be discontinued. The article is closed with the history of an aggravated case of menorrhagia, in which faithful and persistent treatment, both medical and surgical, had proved unavailing, and in which a prompt and complete control over the hæmorrhage was gained by the tampon, and the patient restored to health and happiness from a state of emaciation and depression.—*University Medical Magazine.*

MILIARY TUBERCULOSIS AND GUMMATA OCCURRING IN THE SAME LUNG; DIFFERENTIAL DIAGNOSIS.

Dr. Eugene Hodenpyle (*New York Medical Record*, December 3, 1892), says the differentiation between miliary tuberculosis and small gummata is often exceedingly difficult. The following points of differential diagnosis may be emphasized, although, of course, there are many exceptions to the general statements made:

1. The history of tuberculosis in the one case, and of syphilis in the other, may be of importance.

2. The bacteriological examination is usually positive in tuberculosis, unless the tubercles are very old and fibrous; it is negative in syphilis.

3. Inoculation experiments are usually positive in tubercle, and negative in gummata.

4. Tubercles are usually present in considerable numbers, and are scattered throughout the entire organ and throughout the body; gummatous deposits are usually single, or are present in small numbers, and are confined to a single organ.

5. Tubercles are usually much smaller than gummata.

6. Tubercles show a marked tendency to undergo cheesy degeneration and to from cavities: gummata rarely become cheesy, usually drying up and undergoing calcification.

7. Amyloid degeneration is sometimes present in tubercles, but, so far as known, is absent in gummata. On section, the tubercles appear as round or irregular grayish masses, often soft or cheesy in the centre, and surrounded by a zone of inflammatory products.

8. Microscopical examination will show the presence of tubercle bacilli in the tubercles; but no characteristic microorganism is present in syphilis. Giant cells are present usually in tubercles, and are usually absent in gummata.—*International Med. Magazine.*

HIP DISEASE.

Dr. Lovett and Dr. Morse (*Boston Med. and Surg. Journ.*, August 18, 1892) describe a transient or ephemeral form of hip disease. The writers ascertained that in the years 1888 and 1889 a hundred and fifty-six new patients with hip disease came to the Chiidren's Hospital, Boston. Of these, thirty-eight made fewer than four visits and disappeared from view.

In February, 1892, twenty-four of these thirty-eight could be traced; of these, eleven had hip disease of the ordinary type, while thirteen had recovered without treatment. Of these, eight appeared to have been cases of simple acute synovitis, but in the remaining five the bone appears to have been involved, as trochanteric thickening and shortening of the limb could be demonstrated after recovery, which took place in a few weeks or months, The authors conclude that there is a transient form of hip disease which may end in spontaneous recovery within a few months, but does not appear to differ in its symptoms from the usual form.

Dr. Lovett gives (*Boston Med. and Surg. Jour.*, October 13, 1892) a clinical classification of hip disease. He finds four well-marked types:

1. The destructive form, which is rapid, severe, and but little influenced by ordinary treatment; there is extensive infiltration of soft parts, and in most instances the disease passes on to a fatal issue. This form is due to a florid tuberculosis of bone or to an acute infectious osteomyelitis.

2. The painful form; pain is a prominent symptom, and exacerbations are common. This is the ordinary form of hip disease and is due to focal bone tuberculosis, where irritation surrounds the foci, and the tendency is to purulent degeneration.

3. The painless or quiet form, due to the fibroid form of focal bone tuberculosis with little irritation. In these cases spasm and atrophy are prominent symptoms, and the course is slow with a tendency to anchylosis.

4. The transient or ephemeral form, due probably to a focus of tuberculosis, which is rapidly absorbed, or is so distant from the joint as to cause little or no synovial irritation.—*N. Y. Med. Journal.*

A NEW METHOD OF EXTIRPATION OF THE RECTUM.

Dr. Schelkly (*British Medical Journal*), describes a new method of extirpation of the rectum. The patient is placed in the lithotomy position, the buttocks brought to the edge of the operation-table and raised so that the intestines may fall back into the abdominal cavity. A skin incision is then made, commencing at the inner margin of the right ischial tuberosity, and carried over the coccyx to the left ischial tuberosity. The coccygeal attachment of the sphincter ani is next divided close to the bone. With the left forefinger the peri-rectal connective tissue is separated, and with a pair of scissors the levator ani muscle is divided, first to the left, then to the right, as far as the limits of the skin incision. The posterior wall of the rectum at this stage of the operation usually appears in the bottom of the wound. If it is necessary to expose the pelvic organs further, it is advisable to divide the coccyx by a transverse incision. The part of the rectum to be removed is next separated from the surrounding tissues, and is then cut across transversely just above the sphincter ani externus. The rectum is seized with forceps, and further separated from its surroundings until the upper limit of the disease has been passed. In case of carcinoma which extends high up, it is necessary to open the pouch of Douglas. The part of the rectum above the seat of disease is so separated and made movable that after the diseased part has been resected it is drawn down and sutured to the lower segment which was left just above the anus, without giving rise to a state of tension. In cases where the pouch of Douglas has been opened, the aperture is closed up with sutures before the rectal segments are brought together. This method of operation is applicable, according to the author, to rectal carcinomas (even when placed high up), to syphilitic strictures, to congenital strictures, and also to some forms of pelvic growth.

Schelkly himself has operated in this manner five times: three times in rectal carcinomas not high up, once in syphilitic stricture, and once in congenital atresia recti. All these cases recovered. In a sixth case a carcinomatous tumor was removed from the middle of the sigmoid flexure, together with part of the mesocolon. The part of the sigmoid flexure above was brought down and sutured to the upper part of the rectum below. The patient died about three weeks after the operation. In the seventh case two and a half inches of the rectum were removed, Douglas' pouch opened, and an ovarian cyst and the fallopian tube removed. The pedicle was dropped back, and the aperture closed with silk sutures, and then the intestine treated as described. The patient made a good recovery, and five months afterward had no signs of recurrence of the disease. The eighth case, a patient with carcinoma recti, died two days after the operation.—*N. Y. Medical Record.*

THE PERMEABILITY OF THE SKIN TO MICROBES.

Wasmuth (*Centralbl. f. Bakt.*, December 20 and 28, 1892), has made a series of experiments upon his own person and upon mice, rabbits and guinea-pigs in order to elucidate this subject. Pure culture of staphylococcus was rubbed into the arm; in the animals, pure culture of the same organism, of the cocci of erysipelas, and of anthrax bacilli were rubbed into the skin. [Mere spreading out upon the skin led to negative results.] The following are the chief conclusions drawn: (1) The healthy, uninjured skin of man and of the lower animals is permeable to microbes; once introduced these produce the corresponding local and general disturbances; (2) the organisms enter between the sheath and the shaft of hairs; (3) the openings of the sweat and sebaceous glands do not serve as points of entry.—*British Med. Journal.*

EGGS AS ENEMATA.

The addition of about fifteen grains of common salt, says Dr. Duber, to each egg used, will markedly promote the absorption by the rectum. Peptonizing also increases the rapidity and positiveness of absorption.—*Lancet-Clinic.*

VITAL STATISTICS.

STATIONS.	Population,	Period.	DEATHS.								Ratio of deaths per mille.	BIRTHS.	Ratio of births per mille.
			Cholera.	Small-Pox.	Measles.	Fevers.	Bowel Complaints.	Injuries and accidents.	Other Causes.	Total.			
		Week ending											
Calcutta ...	681,560	15th April 1893.	23	...	...	101	37	...	157	318	24·3	...	...
,, ...	,,	22nd ,, ,,	35	3	...	123	37	...	146	344	26·3	...	...
,, ...	...	29 ,, ,,	27	3	...	108	35	...	167	340	26·0	...	...
,,		6th May ,,	22	1	...	115	43	...	154	335	25·6		
,,		13th ,, ,,	21	1	...	122	35	...	112	291	22·2		
Bombay ...	821,764												
	,,												
	,,												
Madras ...	452,518	14th April ,,	...	...	36	113	36	...	149	334	38·3	302	34·7
,, ...	,,	21st ,, ,,	...	3	25	129	30	...	157	344	39·5	300	34·4
,,		28th ,, ,,	...	2	33	112	42	...	143	283	32·5	337	38·7
,,		5th May ,,		...	30	135	43	...	147	355	40·7	320	36·7
Delhi ...	...												
Rangoon ...	...	14th April ,,	...	4	...	25	5	1	65	105	32·28	...	...
	...	21st ,, ,,	...	3	1	36	9	2	62	113	32·59	...	...
	...	28th ,, ,,	...	1	...	41	7	1	49	106	30·57	...	...
		5th May ,,	...	1	...	31	3	1	51	91	26·24	...	...
Naini Tal ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Moradabad ...	72,068	21st April ,,	3	10	...	15	14	2	12	53	·73	...	...
Bareilley ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Saharanpore ...	63,194	,, ,,	3	...	...	13	...	...	...	16	·25	...	...
Meerut ...	73,637	,, ,,	...	...	...	24	...	...	...	24	·32	...	...
Agra ...	146,408	,, ,,	...	1	...	45	1	2	7	56	·38	...	...
Sitapur ...	...	,, ,,	...	...	...	...	...	...	...	...	...	...	...
Cawnpore ...	163,779	,, ,,	...	...	...	68	...	...	12	80	·49	...	...
Allahabad ...	162,895	,, ,,	...	...	...	58	1	...	10	69	·42	...	...
Fyzabad ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Goruckpore ...	...	...		...	...	...	...	...	...	...	...	...	...
Benares ...	210,691	,, ,,	13	5	...	119	14	2	29	182	·86	...	...

Medical News and Comments.

INJECTIONS AGAINST CHOLERA.

M. HAFFKINE writes to us from Agra, dated the 3rd of last month, as follows:—"Up to the present time, 836 persons have been vaccinated against Cholera, and from this number, the most important groups are represented by the following: *vis.*—51 children, from the age of 6 years, from St Peter's College, which was done with permission from the Archbishop, 230 men of the Transport Lines of Agra; and 120 men from the Police. At the same time, we are also preparing for the vaccination of soldiers, having had permission from the Commander-in-Chief from Simla—55 persons have been vaccinated at Aligarh also. All these groups, where sanitation is always well looked after, will be found very important in order to judge the value of the method, but nevertheless the number is evidently too small as yet, especially if one takes into consideration that the mortality caused by cholera in this district is not very large, and it is therefore very important to use all possible means in order to succeed in vaccinating larger groups and especially in the lower Provinces at the mouth of the Ganges, where Cholera cases are always in large numbers.

At Aligarh, it was the Collector and Magistrate Mr. Harrison, who organized and arranged for the vaccination; and in other towns from where I have received invitations, the Civil Surgeons and other private people have made arrangements with their friends.

The larger number of people vaccinated are Natives, many of them came with their children, from the age of 10 months, and the vaccination has been accomplished without any inconvenience or accident."

THE Government of India has requested local Governments to give M. Haffkine every facility for visiting the districts and towns where cholera may be prevalent, for seeing the hospitals where cholera patients may be under treatment, and for enquiring into the causes and circumstances of cholera epidemcis; also if he wishes to try his prophylatics against cholera by vaccination, to be permitted to do so only after the proposed remedy has been fully explained to the person to be operated on, or to his friends, and after the patient's consent, or that of his friends, has been obtained.

THE CHEMICAL EXAMINER'S DEPARTMENT.—In reviewing the Annual Report of the Chemical Examiner's Department for 1892, the Lieutenant-Governor acknowledges that a considerable increase has taken place in the work of the department. The number of analyses performed in 1892 was 3,403 against 3,063 in 1891 and 2,746 in 1890. The increase occurred almost entirely in the number of medico-legal analytical cases, which rose from 1,414 to 1,745. In 1,426 of these cases (against 1,104 in 1891,) human viscera or other substances, suspected of containing poison, were sent up for examination. In 150 out of 276 human viscera, and in 489 out of 1,000 cases of suspected substances sent up, no poison was found. The principal poisons detected were arsenic, opium, and aconite. As respects human remains, opium was the most common form of poison—having been found in 26 per cent of these cases. Arsenic was discovered in as many as 79·59 per cent of the supposed cattle-poisoning cases in which animal viscera were sent up for examimination. A satisfactory increase has taken place in the number of samples of drinking water sent up for analysis. The Sanitary Commissioner has instructions, when inspecting a municipality, to procure samples of the water in ordinary use, in order that they might be submitted to the Chemical Examiner to be tested. The Lieutenant-Governor hopes that fuller effect will be given to these orders, and he directs that the Deputy Sanitary Commissioners will share in this work. The duty of testing the water of all the towns in Bengal must be taken up on a uniform and general plan, so as to obtain information where a pure water-supply ought to be provided, and where it is possible to rest content with the existing supply. This should be the work of the Sanitary Commissioner's department. Besides this, whenever an epidemic of sickness occurs, which the Civil Surgeon thinks attributable to the water of the place, he should be authorised and enjoined to send in samples of the water for examination.

CALCUTTA MEDICAL COLLEGE.—The Calcutra Medical College Session; 1893-94, will commence on the 23rd of June. Students who may be desirous of commencing their studies must apply to the Principal on or before that date. Students are expected to enter formally and commence attendance at the college upon the date named. Under exceptional circumstances a student will be permitted, at the discretion of the Principal, to extend the time to July 1st, but under no circumstance will any application for entrance be entertained after that date. No person will be enrolled as a matriculated student who has not previously passed the First Arts examination of the Calcutta, or an Indian University, or a preliminary Arts examination of the United Kingdom, recognized by the British General Medical Council.

Sir Joseph Fayrer has received a two years' extension in the Presidentship of the Indian Medical Board, as a reward for exceptional services. Few official "indispensibles," says the "Pall Mall," have earned the indulgence so well as Sir Joseph, who won repute as a zealous and capable doctor just forty years ago, when Lord Dalhousie specially promoted him for his services during the siege of Rangoon. At Lucknow, again, he greatly distinguished himself; but his subsequent achievements have been in more peaceful paths. He had medical charge of the Duke of Edinburgh and the Prince of Wales, during their respective tours in India, in which country he has held a host of important offices. Sir Joseph has been for nearly twenty years at the India Office, is a copious author, and belongs to the governing bodies of several medical institutions.

ANTIDOTES FOR PHOSPHORUS.—An American medical journal records a series of experiments for the purpose of ascertaining the most reliable antidote for phosphorus. The conclusions arrived at are as follows: Permanganate of potassium is the most reliable antidote. The B. P. solution should be adminstered in large doses, frequently repeated. With regard to $CuSO_4$, this substance is to be avoided, as in every case a severe gastric inflammation followed its use, the remedy being as fatal as the poison for which it was given. H_2O_2 is too slow, and irritates the digestive tract. Oil of turpentine is credited in all text books with forming a crystalline insoluble mass with phosphorus, but they forget to mention that it is only the old French oil which behaves in this manner, and as this variety of turpentine is now almost unobtainable, it is useless to consider it as one of the practical antidotes for phosphorus.

LIGHT AS AN ANÆSTHETIC.—According to the *Medical Record*, a Russian physician recommends the electric light as an instantaneous cure for local pains. For the cure of neuralgia he throws a beam from a bright arc light on the painful area by means of a powerful reflector, or uses direct illumination by means of a condenser. In this way, it is claimed, the most intense pain, provided it be superfically located, may often be relived at once without the use of anodynes.

THE Sabathu Leper Asylum we learn, is prospering very fairly. The average annual income of the asylum is about Rs. 5,000, of which the Government contributes the magnificent sum of Rs. 600, the "Mission to Lepers in India" sending Rs. 2,550, and the remainder coming from private subscriptions in this country, More money is, however, needed for additional accommodation. During 1892, there were in the asylum 96 lepers, 80 men and 16 women, all of whom were fed and clothed at the expense of the institution.

FEMALE MEDICAL AID.—At a recent meeting of the Mahommedan Literary Society of Calcutta, Nawab Abdool Luteff Bahadoor, delivered an address in Urdu for the benefit of the Mahomedan community, on the beneficial results of the Marchioness of Dufferin's scheme for supplying female medical aid to the women of India, and especially on the appropriate arrangements recently made, for providing comfortable and secluded accommodation to the *purdanasheen* Hindoo and Mahomedan patients in the newly constructed wing of the Lady Dufferin Zennana Hospital in Calcutta.

NEW DISPENSARIES FOR CALCUTTA.—The Committee appointed to consider the medical needs of Calcutta have decided that additional medical aid is required. They recommend four out-door dispensaries in the most crowded localities, and an indoor hospital at Bhowanipore, to accommodate 50 patients. The Committee consisted of Surgeon-Colonel Pilcher, Surgeon-Lieutenant-Colonel Crombie, the Hon'ble Mr. J. Lambert, Comissioner of Police, Mr. Ritchie, Chairman of the Corporation, and the Health Officer of Calcutta.

CREMATIONS IN PARIS.—During the year 1892, the number of bodies cremated in Paris was 159. Besides these 2,389 fragments from the operating theatres and dissecting rooms, and 1,400 bodies of stillborn children were burnt in the Southern Cemetery. The number of bodies cremated in 1891, was 134; in 1890, 127; and in 1889, 49.

THE HOWRAH HOSPITAL.—A much-needed improvement will soon be made at the General Hospital, Howrah, by the construction of a ward for females. Much inconvenience has been felt hitherto by the residents of Howrah owing to there being no proper accommodation for female patients at the local hospital.

A NARROW ESCAPE.—MRS. MARTIN, wife of Surgeon-Major Martin, had a miraculous escape at Ootacamund, a short while ago. While driving in her phæton past "Awdry House," a large tree, which some men were felling close to the roadside, came down with a crash and fell on the syce who was sitting behind, killing him on the spot.

DOCTOR R. N. KHORY, of Bombay, has gone to Chicago, as delegate of the Grant Medical College Society. He will represent the same body in the International Hygienic Congress to be held in Rome in October next.

WE regret to hear that Surgeon-General Rice has sustained rather severe injuries to the right wrist by a fall from his pony at Simla.

CIVIL SURGEON OF SERAMPORE.—Dr. R. A. Barker, civil medical officer of Serampore, retires from the public service in July. It is believed that a native gentleman will be appointed in his place.

INCINERATION.—The members of the Suburban Improvement Committee are determined to give incineration a fair trial in connection with the disposal of the city refuse. They have decided to erect another incinerator at Dakuria, a little distance beyond the tramway terminus at Kalighat, and negotiations for its construction are in progress.

THE PRESIDENCY HOSPITALS.—Surgeon-Major S. H. Browne, late Principal of the Lahore Medical College, has taken up his duties as Surgeon Superintendent of the Presidency General Hospital. His former position is filled by Surgeon Major F. F. Perry.

A CANCER HOSPITAL FOR VIENNA.—Information has been received that Baron Albert Rothschild has given half a million florins for the purpose of founding a hospital for the treatment of persons suffering from cancer. It is understood that the gift is intended to commemorate the death of the late Baroness, who, it will be remembered, died from cancer.

Government Medical Notifications.

GAZETTE OF INDIA.

Mr. Senior Apothecary F. W. Saunders, Civil Surgeon, Unao, privilege leave for two months, with effect from the 15th May 1893.

Assistant-Surgeon Prakash Chandra Mukarji, attached to the Unao Sadar Dispensary, to hold charge of the civil medical duties of the Unao district, in addition to his other duties, during the absence on leave of Mr. Senior Apothecary F. W. Saunders, or until further orders.

Assistant-Surgeon Jwala Prasad, attached to the Sadar Dispensary, Moradabad, held charge of the civil medical duties of the Moradabad district, in addition to his own duties, from the afternoon of the 10th to the forenoon of the 13th April 1893.

Assistant-Surgeon Nil Mani Chaudhri, attached to the Bahraich Sadar Dispensary, to hold charge of the civil medical duties of the Bahrajch district, in addition to his other duties, with effect from the 12th April 1893, and until further orders.

Assistant Surgeon Prasanna Kumar Banarji, attached to the Azamgarh Sadar Dispensary, to hold charge of the civil medical duties of the Azamgarh district, in addition to his other duties, with effect from the 6th April 1893, and until further orders.

Assistant Surgeon Bonomali Pal, attached to the Kheri Sadar Dispensary, to hold charge of the civil medical duties of the Kheri district, in addition to his other duties, with effect from the 17th April 1893, and until further orders.

No. 4.—The services of 3rd grade Assistant-Surgeon Mr. R. Bryson, of the Imperial Establishment, are placed temporarily at the disposal of the Agent to the Governor-General, Baluchistan.

Surgeon-Lieutenant-Colonel B. O'Brien, Civil Surgeon, 2nd class, Kheri, to officiate as Civil Surgeon, 1st class, Benares.

Mr. Apothecary W. H. Butcher, in charge of the Civil Hospital, Allahabad, to be Assistant to the Civil Surgeon, Allahabad, with effect from the date of taking charge of his duties.

Mr. Apothecary P. Toomey, Assistant to the Civil Surgeon, Allahabad, to the charge of the Civil Hospital. Allahabad, with effect from the forenoon of the 5th January 1893.

Surgeon-Major W. Deane, Civil Surgeon, from Bahraich to Moradabad.

Surgeon-Captain F. D. C. Hawkins, Civil Surgeon, from Pilibhit to Etawah.

No. 207.—The services of Surgeon-Captain A. G. Hendley, of the Bengal Establishment, are placed temporarily at the disposal of the Chief Commissioner of the Central Provinces.

No. 699-*G*.—Surgeon-Captain C. M. Moore, M.D., Indian Medical Service (Bombay), Medical Officer, 3rd Bombay Cavalry, is appointed to officiate as Medical Officer of the Deoli Irregular Force and of the Harowtee and Tonk Political Agency, with effect from date of joining, *vice* Surgeon-Captain R. Shore, M.D.

No. 382.—The undermentioned officers are granted leave out of India under article 689, Army Regulations, India, volume I, part I:

Surgeon-Colonel E. O. Tandy, Principal Medical Officer, Bundelkhand and Nerbudda districts, (m. c.) for six months.

No. 385.—The undermentioned officers have been granted extensions of furlough or leave by the Secretary of State for India:

Surgeon-Lieutenant-Colonel J. Young, M.B., Bengal Sappers and Miners, (m. c.) for six months.

No. 395.—Brigade-Surgeon-Lieutenant-Colonel Griffith Griffith, Deputy Sanitary Commissioner, North-Western Provinces and Oudh, is permitted to retire from the service, with effect from the 1st May 1893, subject to Her Majesty's approval.

No. 2084.—Surgeon-Captain W. R. Edwards, M.D., Civil Surgeon of Quetta, is granted privilege leave for two months, under the provisions of Articles 277 and 291 of the Civil Service Regulations, with effect from the 20th April, or the subsequent date on which he may avail himself of it.

No. 2085.—Surgeon-Captain Ashton Street, M.D., F.R.C.S., 26th Baluchistan Regiment (Bombay Infantry), is, with the permission of the General Officer Commanding the Quetta District, appointed to hold charge of the duties of Civil Surgeon in addition to his own, during the absence of Surgeon-Captain Edwards on leave, or until further orders.

Surgeon-Captain A. E. Roberts, Officiating Civil Surgeon, Aligarh, privilege leave for one month, with effect from the 1st May 1893.

Assistant-Surgeon Hori Lal, in charge of the Sadar Dispensary, Aligarh, to hold charge of the civil medical duties of the Aligarh district, in addition to his other duties, during the absence on leave of Surgeon-Captain A. E. Roberts or until further orders.

Surgeon-Captain F. D. C. Hawkins, Civil Surgeon, Etawah, to hold visiting medical charge of the Aligarh district, in addition to his other duties, during the absence on leave of Surgeon-Captain A. E. Roberts or until further orders.

Surgeon-Major G. A. Emerson, Civil Surgeon, from Bara Banki to Bareilly.

Surgeons-Lieutenant-Colonel to be Brigade-Surgeon-Lieutenant-Colonel.—Archibald Cameron, M.D., *vice* Brigade-Surgeon-Colonel G. Thomson, promoted. Dated 1st April 1893.

Surgeon-Captain W. G. Thorold, Civil Surgeon, Azamgarh, to officiate as Deputy Sanitary Commissioner, 2nd Circle during the absence on leave of Surgeon-Major S. J. Thomson, or until further orders.

Surgeon-Captain W. G. Thorold, Officiating Deputy Sanitary Commissioner, 2nd Circle, to hold charge of the current duties of the office of Deputy Sanitary Commissioner, 3rd Circle, as a temporary measure, in addition to his other duties.

Surgeon-Major C. C. Vaid, Civil Surgeon, on return from leave, to the Azamgarh district.

No. 395.—Brigade-Surgeon-Lieutenant-Colonel Griffith Griffith, Deputy Sanitary Commisioner, North-Western Provinces and Oudh, is permitted to retire from the service, with effect from the 1st May 1893, subject to Her Majesty's approval.

The Queen has approved of the retirement from the service of the undermentioned officers:—

* * * * * *

Surgeon-Lieutenant-Colonel Charles Cameron. Dated 21st Setember 1892.

No. 418.—Honorary Surgeon James Charles Ellis, Bengal, is permitted to retire from the service, with effect from the 13th December 1891.

C. P. GAZETTE.

No. 2873.—Privilege leave for three months, under Article 291 of the Civil Service Regulations, is granted to Surgeon-Captain E. C. Hare, Civil Surgeon, Bilaspur, with effect from the 3rd May 1893, or the subsequent date on which he may avail himself of it.

No. 2374.—Assistant Surgeon Omesh Chander Mitter, in charge of the Main Dispensary, Raipur, is appointed temporarily to officiate as Civil Surgeon, Bilaspur.

No. 2375.—Under Section 8 of Act XXVI of 1870 (the Prisons Act), the Chief Commissioner is pleased to appoint

Assistant Surgeon Omesh Chander Mitter, Officiating Civil Surgeon of Bilaspur, to the medical charge of the Bilaspur Jail, in addition to the temporary executive charge of that Jail.

No. 2953.—Brigade-Surgeon Lieutenant-Colonel J, B. Gaffney, Civil Surgeon of Seoni, is appointed to officiate as Civil Surgeon of Jubbulpore, during the absence on leave on medical cetificate of Surgeon Lieutenant-Colonel B. Franklin, or until further orders.

No. 2954.—Under Section 8 of Act XXVI of 1870 (the Prisons Act), the Chief Commissioner is pleased to appoint Brigade-Surgeon Lieutenant-Colonel J. B. Gaffney, Officiating Civil Surgeon of Jubbulpore, to the medical charge of the Jubbulpore Central Jail.

No. 2955.—Assistant Surgeon Ganda Mal, Sanitary Inspector, Nerbudda Division, is appointed temporarily to officiate as Civil Surgeon of Seoni.

No. 2956.—Uuder Section 8 of Act XXVI of 1870 (the Prisons Act), the Chief Commissioner is pleased to appoint Assistant Surgeon Ganda Mal, officiating Civil Surgeon of Seoni, to the medical charge of the Seoni Jail.

No. 2958.—With reference to Notifications Nos. 2953 and 2955, dated the 20th instant, Brigade-Surgeon Lieutenant-Colonel J. B. Gaffney and Assistant Surgeon Ganda Mal respectively made over and assumed charge of the office of Civil Surgeon, Seoni, on the forenoon of the 1st idem.

No. 2959.—With reference to Notifications Nos. 2953 and 2956, dated the 20th instant, Brigrade-Surgeon Lieutenant-Colonel J. B. Gaffney and Assistant Surgeon Ganda Mal respectively made over and assumed medical charge of the Seoni Jail on the forenoon of the 1st idem.

No. 2961.—With reference to Notification No. 2953, dated the 20th instant, Surgeon Lieutenant-Colonel B. Franklin and Brigade-Surgeon Lieutenant-Colonel J. B. Gaffney respectively made over and assumed charge of the office of Civil Surgeon, Jubbulpore, on the afternoon of the 5th idem.

No. 2962.—With reference to Notification No. 2954, dated the 20th instant, Surgeon Lieutenant-Colonel B. Franklin and Brigade-Surgeon Lieutenant-Colonel J. B. Gaffney made over and assumed medical charge of the Jubbulpore Central Jail on the afternoon of the 5th idem.

No. 24.—Third Class Civil Hospital Assistant Ramkrishna Lal, doing duty under the orders of the Civil Surgeon, Nagpur, is temporarily appointed to the Dhondi Lohara Zamindari Dispensary, Rajpur District.

Third Class Hospital Assistant Mahomed Zahurul Haq, attached to the Dhondi Lohara Zamindari Dispensary, Rajpur District, is placed under suspension, until further orders.

No. 25.—The undermentioned Civil Hospital Assistant, whose services are no longer required with No. 4 Survey Party, is directed to do duty under the orders of the Civil Surgeon, Saugor :—

Third Class Hospital Assistant Balaji Balaram.

No. 26.—Second Class Civil Hospital Assistant Ujagar Pershad, of the Jail Hospital, Chanda, is deputed to the Chanda Fair from the 15th April 1893, in addition to his own duties.

No. 27.—First Class Civil Hospital Assistant Vertharajalu, attached to the Sakoli Branch Dispensary, Bhandara District, is transferred to the Panni Branch Dispensary, Bhandara District.

Third Class Civil Hospital Assistant Kunj Behari Lal, attached to the Pauni Branch Dispensary, Bhandara District, is transferred to the Sakoli Branch Dispensary, Bhandara District.

No. 28.—Three months' privilege leave is granted to 1st Class Civil Hospital Assistant Bashiruddin, attached to the Main Dispensary, Chhindwara, from the date he may be permitted to avail himself of it.

Third Class Civil Hospital Assistant Kalilur Rahman, doing duty under the orders of the Civil Surgeon, Balaghat, is temporarily posted to the Main Dispensary, Chhindwara.

No. 29.—Second Class Civil Hospital Assistant Murlidhar, attached to the Civil Station Branch Dispensary, Nagpur, is transferred to the Umrer Branch Dispensary, Nagpur District.

First Class Civil Hospital Assistant Mir Barkat Ali, attached to the Umrer Branch Dispensary, Nagpur District, is transferred to the Katol Branch Dispensary, Nagpur District.

Third Class Civil Hospital Assistant Vishnu Hari Dattey, attached to the Katol Branch Dispensary, Nagpur District, on being relieved by Civil Hospital Assistant Mir Barkat Ali is appointed to the Civil Station Branch Dispensary. Nagpur.

No. 30.—Three months' privilege leave is granted to 3rd Class Civil Hospital Assistant Deo Lall, acting as Native Superintendent of Vaccination, Raipur District, from the date he is permitted to avail himself of it.

No. 31.—Three month's privilege leave is granted to 1st Class Civil Hospital Assistant Kunj Behari Lal, attached to the Harda Branch Dispensary, Hoshangabad District, from the date he is permitted to avail himself of it.

First Class Civil Hospital Assistant Abdul Razak Khan, doing duty under the orders of the Civil Surgeon, Saugor, is temporarily posted to the Harda Branch Dispensary, Hoshangabad District, during the absence on privilege leave of Civil Hospital Assistant Kunj Behari Lal.

No. 32.—Two month's privilege leave is granted to 2nd Class Civil Hospital Assistant Chajjumal, attached to the Hinganghat Branch Dispensary Wardha District, from the date he is relieved of his duties.

First Class Civil Hospital Assistant Sheik Abdul Rahaman, doing duty under the orders of the Civil Surgeon, Nagpur, is temporarily posted to the Hinganghat Branch Dispensary, Wardha District, during the absence on privilege leave of Civil Hospital Assistant Chajjumal.

No. 33.—Three months' privilege leave is granted to 1st Class Civil Hospital Assistant Abdul Fatha Khan, attached to the Jail and Police Hospital, Seoni, from the date he is permitted to avail himself of it.

Third Class Civil-Hospital Assistant Aminudin, doing duty under the orders of the Civil Surgeon, Jubbulpore, is temporarily posted to the Jail and Police Hospital, Seoni, during the absence of Civil Hospital Assistant Abdul Fatha Khan.

No. 34.—Three months' privilege leave is granted to 1st Class Civil Hospital Assistant Sheik Mohidin, attached to the Brahmapuri Branch Dispensary, Chanda District, from the date he is permitted to avail himself of it.

Second Class Civil Hospital Assistant Nanak Pershad, doing duty under the orders of the Civil Surgeon, Nagpur, is temporarily posted to the Brahmapuri Branch Dispensary, Chanda District, during the absence on privilege leave of Civil Hospital Assistant Sheik Mohidin.

No. 193 —Surgeon-Colonel G. Thomson, M.B., is appointed to be Administrative Medical Officer and Sanitary Commissioner of the Central Provinces, with effect from the date on which he assumed charge of his office from Brigade-Surgeon-Lieutenant Colonel W. Center, who has retired from the service.

To be Surgeon-Colonel.—Brigade-Surgeon-Lieutenant-Colonel George Thomson, M.B., with effect from the 1st April 1893, *vice* Surgeon-Colonel A. H. Hilson, retired.

No. 3131.—With reference to Government of India. Home Department, Notification No. 193 (Medical), dated the 18th

instant, Brigade-Surgeon Lieutenant-Colonel W. Center, M.B., and Surgeon-Colonel G. Thomson, M.B., respectively made over and assumed charge of the office of Deputy Surgeon-General Central Provinces, on the afternoon of the 1st idem.

No. 3171.—Privilege leave for three weeks, under Article 291 of the Civil Service Regulations, is granted to Surgeon-Captain W. L. Price, Civil Surgeon and Superintendent of the Jail, Chhindwara, with effect from the date on which he may avail himself of it.

No. 35.—On being relieved by Civil Hospital Assistant Sheikh Abdul Rahiman on return from leave, 3rd Class Civil Hospital Assistant Kunj Behari Lal, temporarily attached to the Bindra Nawagarh Dispensary, Raipur District, is directed to do duty under the orders of the Civil Surgeon, Raipur.

Third Class Civil Hospital Assistant Kunj Behari Lal, doing duty under the orders of the Civil Surgeon, Raipur, is directed to do duty under the orders of the Civil Surgeon, Nagpur.

No. 36.—Third Class Civil Hospital Assistant Ramkrishna Lal, attached to the Dhondi Lohara Dispensary, Raipur District, is directed to do duty under the orders of the Civil Surgeon, Raipur.

No. 207.—The services of Surgeon-Captain A. G. Hendley, of the Bengal Establishment, are placed temporarily at the disposal of the Chief Commissioner of the Central Provinces.

No. 3337.—Surgeon-Captain A. G. Hendley, whose services have been placed temporarily at the disposal of this Administration by Government of India, Home Department, Notification No. 207 (Medical), dated the 27th ultimo, is posted as Civil Surgeon to Seoni.

No. 3338.—Under Section 8 of Act XXVI of 1870 (the Prisons Act), the Chief Commissioner is pleased to appoint Surgeon-Captain A. G. Hendley, Civil Surgeon of Seoni, to to the medical and executive charge of the Seoni Jail.

No. 3339.—With reference to Notification No. 3337, dated the 4th instant, Surgeon-Captain A. G. Hendley assumed charge of the office of Civil Surgeon, Seoni, from Assistant Surgeon Ganda Mal on the forenoon of the 21st ultimo.

No. 3340.—With reference to Notification No. 3338, dated the 4th instant, Surgeon-Captain A. G. Hendley assumed executive charge of the Seoni Jail from Mr. Ganpat Rao Shrikandi on the forenoon of the 20th ultimo.

No. 3342.—Surgeon-Captain E. C. Hare, Civil Surgeon and Superintendent of the Jail, Bilaspur, availed himself, on the afternoon of the 2nd instant, of three months' privilege leave granted him by Notification No. 2873, dated the 18th ultimo, making over charge of his duties to Assistant Surgeon Omesh Chander Mitter.

N. 3344.—Aphothecary G. Murphy, Civil Surgeon, Mandla availed himself, on the forenoon of the 29th March 1893, of the twenty days' privilege leave granted him by Notification No. 2271, dated the 30th idem.

No. 3346.—With reference to Notification No. 2272, dated the 30th March 1893, Assistant Surgeon Krishnaji Kashinath Gokhle assumed charge of the office of Civil Surgeon, Mandla, on the forenoon of the 5th ultimo.

No. 3347.—With reference to Notification No. 2273, dated the 30th March 1893, Assistant Surgeon Krishnaji Kashinath Gokhle assumed medical charge of the Mandla Jail on the forenoon of the 5th ultimo.

No. 3348.—Apothecary G. Murphy returned from the privilege leave granted him by Notification No. 2271, dated the 30th March 1893, and resumed charge of the office of Civil Surgeon, Mandla, from Assistant Surgeon Krishnaji Kashinath Gokhle on the forenoon of the 18th ultimo.

No. 3349.—Assistant Surgeon Krishnaji Kashinath Gokhle and Apothecary G. Murphy respectively made over and resumed medical charge of the Mandla Jail on the forenoon of the 18th ultimo.

No. 3350.—Mr. Moula Bux, Extra-Assistant Commissioner, and Apothecary G. Murphy respectively made over and resumed executive charge of the Mandla Jail on the forenoon of the 18th ultimo.

No. 37.—This office Notification No. 32, dated the 18th April 1893, granting two months' privilege leave to 2nd Class Civil Hospital Assistant Chajjumal, is hereby cancelled at his own request.

First Class Civil Hospital Assistant Sheikh Abdul Rahman, who was ordered to relieve Civil Hospital Assistant Chajjumal at Hinganghat, is directed to do duty at Hinganghat under the orders of the Civil Surgeon, Wardha.

First Class Civil Hospital Assistant Sheikh Abdul Rahman, doing duty under the orders of the Civil Surgeon, Wardha, is directed to do duty under the orders of the Civil Surgeon, Nagpur.

ASSAM GAZETTE.

No. 53.—Privilege leave of absence for two months and fifteen days, under article, 291 of the Civil Service Regulations, is granted to Third-grade Hospital Assistant Sasi Kanta Sen, in medical charge of the Chhatak Dispensary, with effect from the date he is relieved of his duties.

No. 54.—Third grade Hospital Assistant Sita Nath Rai, in medical charge of the Muchikandi Dispensary, is appointed to the medical charge of the Chhatak Dispensary during the absence on leave of Hospital Assistant Sasi Kanta Sen, or until further orders.

No. 55.—Third-grade Hospital Assistant Amrita Lal Basu held medical charge of the Tezpur Jail, with the Police in addition to his other duties, from the 15th to the 23rd February 1893, both days inclusive.

No. 56.—Third-grade Hospital Assistant Kali Mohan Sen (2nd), in temporary medical charge of the Mokokchang Dispensary in the Naga Hills district, will, on relief, revert to his substantive appointment at Kohima for duty as a supernumerary.

No. 57.—Referring to Medical Department Notification No. 31, dated the 23rd March 1893, Third-grade Hospital Assistant Boloram Das will remain at Nowgong for duty as Supernumerary until the dispensary at Jagi in that district is opened.

58.—The undermentioned Hospital Assistant passed the English Qualification Examination according to the test laid down in G. G. O. No. 945, dated the 11th September 1868:

Rank and name.	Date of rank.	Date of passing the English Qualification Examination.
Third-grade Hospital Assistant Badaruddin Ahmad.	26th April 1888.	17th April 1893.

No. 59.—Second-grade Hopital Assistant Ishan Chandra Datta, in subordinate medical charge of the Jail and Police Hospitals at Sylhet, is transferred to Maulvi Bazar in that district, appointed to the medical charge of the Dispensary there with the Lock-up in addition to his other duties.

No. 60.—First-grade Hospital Assistant Kamini Kumar Chakravarti, in medical charge of the Dispensary and Lock-up at Maulvi Bazar in the Sylhet district, is, on relief, transferred to Shillong in the Khasi Jaintia Hills district, and appointed to the subordinate medical charge of the Dispensary there with the Jail and Police in addition to his other duties.

No. 61.—Second-grade Hospital Assistant Jamini Kumar Ghosal, in subordinate medical charge of the Shillong Dispensary, jail and Police Hospitals, in the Khasi and Jaintia Hills district is, on relief transferred to Sylhet, and appointed to the subordinate medical charge of the Jail there, with the Police in addition his other duties.

No. 62.—Third-grade Hospital Assistants Radha Krishna Nandi and Chandra Nath Chanda, having passed the Septen-

nial Professional Examination of Hospital Assistants, are promoted to be Second-grade Hospital Assistants, in accordance with the provisions laid down in G. G. O. No. 399 of 1854, with effect from the 7th April 1893.

No. 63.—Second-grade Hospital Assistant Chandra Nath Chanda, in medical charge of the Laur Dispensary in the Sylhet district, is transferred to Goalpara, and appointed to the medical charge of the Dispensary there, with the Lock-up in addition to his other duties.

No. 64.—Second-grade Hospital Assistant Kali Mohan Sen (1st), at present in medical charge of the Goalpara Dispensary, is, on relief, transferred to Dhubri, and appointed to the medical charge of the Dispensary there, with the Jail and Lock-up in addition to his other duties.

No, 65.—Second-grade Hospital Assistant Ishan Chandra Datta, in subordinate medical charge of the Sylhet Jail and Police Hospitals, is appointed to the medical charge of the Sunamganj Dispensary, with the Lock-up in addition to his other duties, in that district.

This cancels Medical Department Notification No. 59, dated the 19th April 1893, published in the *Assam Gazette* of the 22nd idem.

No. 66.—Second-grade Hospital Assistant Brindaban Chandra Sarkar, in medical charge of the Sunamganj Dispensary in the Sylhet district, is on relief, transferred to Tezpur in the Darrang district, and appointed to the subordinate medical charge of the Dispensary there.

No. 67.—First-grade Hospital Assistant Mir Subdar Ali, in subordinate medical charge of the Tezpur Dispensary in the Darrang district, is, on relief, transferred to Shillong in the Khasi and Jaintia Hills district, and appointed to the subordinate medical charge of the Dispensary there with the Jail and Police in addition to his other duties.

This cancels Medical Department Notification No. 60, dated the 19th April 1893, published in the *Assam Gazette* of the 22nd idem.

No. 68.—Third-grade Hospital Assistant Nobin Chandra Das, lately in medical charge of the Public Works Department coolies on the Noarbund-Changsil road, is transferred to Sylhet, and posted for duty as a Supernumerary under the orders of the Civil Surgeon there.

No. 69.—Referring to Medical Department Notification No. 32, dated the 23rd March 1893, Third-grade Hospital Assistant Sujawat Ali will remain at Nowgong for urgent *kala-azar* duty as a Supernumerary until the dispensary at Pathori in that district has been opened.

G. O. C. C.

332. Surgeon-Major H. E. W. Barrington, Army Medical Staff, is appointed to the medical charge of the Cantonment General Hospital, Dalhousie, from the 9th of March 1893.

333. Surgeon-Captain J. S. Edye, Army Medical Staff, is appointed to the medical charge of the Cantonment General Hospital, Ranikhet from the 1st of April 1893.

334. First grade Senior Apothecary G. Nesbit is granted general leave for one day (the 2nd September, 1892), on private affairs, in extension of the six months' leave on medical certificate granted in G. O. C. C. No. 244 of 1892.

335. The leave granted in G. O. C. C. No. 214 of 1893, to Lady Superintendent J. E. Oxley, and Deputy Superintendent M. E. Beresford, is cancelled.

336. The undermentioned officers are granted leave to England :—

Army Medical Staff.—Surgeon-Major R. Haselden, for six months, on medical certificate.

Surgeon-Captain H. N. Thompson, M.B., for four months, on medical certificate.

Surgeon-Captain F. L. Carte, for six months, on medical certificate.

340. The Commander-in-Chief in India is pleased to make the following appointments :—

8th Bengal Cavalry.—Surgeon-Captain J. T. Daly, to the medical charge of the regiment, *vice* Surgeon-Lieutenant-Colonel A. McGregor.

10th Bengal Lancers.—Surgeon-Captain W. H. E. Woodwright, to the officiating medical charge of the regiment, *vice* Surgeon-Major .C H. Beatson.

17th Bengal Infantry.—Surgeon-Major G. Money-Shewan, from the officiating medical charge of the 23rd Bengal Infantry, to the medical charge of the regiment, *vice* Surgeon-Lieutenant-Colonel A. B. Seaman.

16th Bengal Infantry.—Surgeon-Major G. Money-Shewan, from the medical charge of the 17th Bengal Infantry, to the officiating medical charge of the regiment, *vice* Surgeon-Captain E. R. W. C. Carroll.

17th Bengal Infantry.—Surgeon-Captain B. C. Oldham, to the officiating medical charge of the regiment, *vice* Surgeon-Major G. Money-Shewan.

Domestic Occurrences.

MARRIAGES.

MARSH—STRONG.—At. St. Paul's Cathedral, Calcutta, on the 6th May, 1893, by the Rev. C J. Palmer, William, eldest son of late William Marsh, M. D. of "Mashfield" Gloucestershire, to Constance, youngest daughter of Captain J. G. Strong.

BOSE—LEWIS.—At "St. Michael's and All Angels," Jalpaiguri, on April 26, 1893, by the Rev. R. Nagel, C. C. Bose, M.B., M. C., F. R. C. P., Endinburgh &c., son of M. M. Bose of Calcutta, to Elizabeth Janet Mary, only daughter of John Lewis, Jalpaiguri.

DEATH.

DICKINSON.—At Hurstpierpoint, Sussex, on Aprill 18, 1893, Mary, widow of Maj-Gen. Thomas Dickinson. Bombay Engineers, previously widow of Richard Weeks, Esq. F. R. C. S., F L S., F. S. A., of the Mansion House Hurspierpoint, aged 81.

Acknowledgments.

ANSWERS TO CORRESPONDENTS.

Sir William Moore.—Many thanks for your kind letter. The reprint you sent us appears in this issue.

O. A.—We cannot entertain your request.

A. C. B.—Your paper will be inserted in a future issue.

H. M. C.—Many thanks for your paper.

A. R. P.—You will be required to produce a certificate from the Calcutta University to exempt you from the preliminary General education examination, or pass an equivalent test as recognised by the General Medical Council, prior to being registered.

M. M.—Declined with thanks.

D. G.—One of your papers appears in this issue.

Communications have also been received from the following:—

Surgeon-General Sir William Moore, K. C. I. E., Q. H. P., London; M. le Docteur W. M. Haffkine, Agra; Dr. Lennox Moore, London; Dr. R. Nugent L.R. C.P., and S.E, Calcutta; Surgeon-Captain W. Price M. B., I.M.S. Chindwara; Dr. Wright, London; Dr. Leonard A. Bidwell F.R.C S., London; Secretary, Royal College of Physicians, London; Dr. Day M.B., Assam; Dr. V. J. Pillai M.B., Madras; Dr. Amulya

Charan Bose, M.B. Medical School, Calcutta; Dr. R. P. Bannerjee B.A. G,B.M.S.L. Pachbadra, Rajputana; Dr. Sandel M.B. C.M. Calcutta; Dr. Chuckerbutty, Calcutta; Dr. Green London; S. Killoway Eq. S.M.D. Mooltan; Hospital Assistant Buldeo Ram Singh, Bhandara; Dr. N. Ghose Jhamirpur, The Editor, *Sanitary Record*, London; Dr. A. P. Dass, L.M.S., Calcutta, Dr. Noresh Chandra Mittra, M.A.M.B., Ranchi; Dr. T. M. Shah, Junagadh, Kathiawar; Dr. R. N. Ghosal, L.MS.., Calcutta; Dr. Mul Chand, Delhi; H. W. Foscholo, Esq. S.M.D., Calcutta; Mr. Hardaker, Mily. Pupil, Medical College, Calcutta; Dr. Ram Deen, Lahore; J. Chaves Esq., S.M.D., Neemuch; Dr. Cooper, Agra.

Periodicals.—The Lancet—The British Medical Journal—The Edinburgh Medical Journal—Indian Medical Gazette—Journal de Mèdicine de Paris—Modern Medicine—Australian Medical Journal—The Sanitary Journal—The Medical and Surgical Journal—The Medical Times and Register—The Lancet-Clinic—The Medical Bulletin—The Medical and Surgical Reporter—The New York Medical Journal—The Family Doctor—The Medical Week—Health Messenger—Health—The Medical Record—British and Colonial Druggist—Chemist and Druggist—The Medical Review—New Orleans Medical and Surgical Journal—The Medical Monthly—The Scalpel—The Humanitarian—The Popular Science Monthly—The Sanitary Record—Merck's Medical Bulletin—The Southern Medical Record.—The Sanitarian—Doctor's Weekly—The Post Graduate—The Therapist—The Universal Medical Journal—The Medical Compend—The Medico-Chirurgical Review—The Medical Fortnightly—Notes on New Remedies.

Books received.—Report of the Leprosy Commission in India 1890-91;—The A. B. C. Excerpta Therapeutica, 1893;—Brief sketches of the life of Victoria Woodhul (Mrs. John Biddulph Martin);—Pocket Therapeutic Notes;—Carlsbad, Its springs and spring-products;—Amblyopiatrics, By George M. Gould, A. M., M. D.

Government Gazettes.—Gazettes of the Government of India, N. W. P. and Oudh, Burmah, Central Provinces, and Assam—G. O. C. C., By His Excellency the Commander-in-Chief.

Newspapers.—The Home News—The Indian Daily News—The Statesman—The Eastern Guardian—The Evening Star—Newman's Bradshaw—Hope—The East—Islam—Bombay Native Opinion—Bangalore Spectator—Nagpur and Berar Times—Progress—Punjab Patriot—Arrakan News—Rangoon Gazette Weekly Budget—The Express—Madras Advertiser—Behar Herald and Indian Chronicle—Bombay Guardian—Banner of Asia—Tribune—Beluchistan Gazette—Western Wit and Wisdom—Indian Empire—Gwalior Gazette—Eurasian Recorder—People's Friend—India Watchman—Western Star—Messenger of Light—Indian Nation—Indian Union—Poona Observer—National Guardian—Indian Engineering—Courier—The Argus—The Bengal Times—Signs of the Times—The Indian Textile Journal—The Amrita Bazaar Patrika (Weekly Edition).

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Original Articles.

THE TREATMENT OF TUBERCULOSIS WITH TUBERCULOCIDIN.

BY PROFESSOR E. KLEBS,

(*Continued from page 132, Vol. II.*)

INSTRUCTIONS FOR THE EMPLOYMENT OF TUBERCULOCIDIN.

1. Tuberculocidin may only be employed by physicians and in the first intance will be sent to such colleagues only as engage to forward weekly to the undersigned a description of the condition of the patients they treat with it. Suitable tables with columns for names, character of the disease, dose given and temperature, morning, mid-day and evening, will be enclosed with the first consignment of the remedy.

2. Medical men are requested to make use of the Overlach syringe, washing it out before use with absolute alcohol and then with 1 per cent carbolic acid, and again after use with the same agents in the reverse order according to the method described by Koch. The rusting of the needles can be prevented by smearing with vaselin.

3. Acording to the sensitiveness of the patients the treatment may be begun with either 1/30th or 1/12th grain. If this first test-injection be followed by no considerable rise of temperature above 38°C, larger doses may be rapidly resorted to. If hectic fever be already present, this need be no obstacle, but the rise of temperature compared with that of the morning must not amount to more than a few tenths of a degree. The dose can then be at once increased to 1/6th grain and further to ⅓, 2/3rds, 1, 1½ grain, each of these quantities being continued for a longer or shorter time according to the course of the disease. The fever will be seen to abate gradually, even in a few days, while the pulmonary symptoms (râles, etc.,) also become less marked, if the administration of Tuberculocidin is at all suited to the case. Even large cavities are no contraindication, but the bodily strength and energy of the patient must not have suffered too severely. The weight is previously determined, the pulse examined at every visit and recorded in the list.

4. According to previous experience the proper curative doses for human beings amounts to 1½—2 grains, and, in the whole, at least 1½ drm of the undiluted substance, corresponding to as much of Koch's crude Tuberculin (exclusively employed for the preparation of Tuberculocidin) should be used in a series of injections. A pause of about a month should then be made—the condition of the patient (pulse, temperature, weight, general feeling and appearance) being recorded each week. At the end of this period of suspension a second series of injections may be begun if necessary.

5. Reports will be kindly sent to me, prepaid, every week; I shall be glad to give further advice, and after a certain time shall publish the whole in the *Deutsche Medicinische Wochedschrift,* so that a quantity of material will be obtained uniform in character and, owing to the number of observers, free from suspicion.

6. In the first instance, 2 bottles of 1½ drm capacity, and containing a 2 per cent and a 20 per cent solution respectively, will be supplied for each patient. With the former the first injection of 2½ to 10 divisions will be made, with the latter the following up to ½ or ¼ of a syringe equal to 1½—2 grains of the substance.

FURTHER REGULATIONS FOR THE EMPLOYMENT OF TUBERCULOCIDIN.

To my previous instructions for the use of Tuberculocidin I add a few remarks on points which have been indicated by more recent observations. I cannot sufficiently warn the observer against regarding febrile conditions which may appear during its use as evidence of reaction. The preparation excites absolutely no fever, either in tuberculous animals or human beings. We are therefore able to give larger doses of this remedy than of Koch's crude Tuberculin, and must bear in mind that the former possesses a considerable antipyretic action which I look upon as indirect and dependent upon the influence of the substance upon the tubercle bacilli. Rising temperatnre is therefore an indication for increasing the dose.

Further it is necessary, in analogy with the experiments on animals which lead to perfect cure, to introduce into the system large quantities of Tuberculocidin in a series of injections. I therefore increase the dosage rapidly, *e.g.*, from 1/10th grain to 1/6th grain, 1 grain, 1½ grain daily, and here make the first pause for a time, proceeding however sometimes much farther, *viz*, to 8—15 grains. The large doses, when possible, I divide into halves, corresponding to the two rises of temperature, before and after noon, which are often present. On the whole I reckon for the first series of injections to give 1½ grn per ℔ of body-weight, so that a man of 100 ℔s must receive 2¼ drms. In later series I give altogether twice as much, but this can be spread over ¼—½ a year.

A series of injections is fully successful when, apart from the disappearance of cough and diminution of expectoration which are generally soon produced, the temperatures vary between 36° and 37° (or in women somewhat higher, say between 36·5° and 37·°) or exceed the latter limit very slightly. Larger daily fluctuations are suspicious, and call for an early repetition of the injections.

Increase of temperature occurring without special reason always indicates that the morbid process is not yet resolved. Yet very often one must be content with such a partial success

(1) The sale of T C. is now unrestricted, but I shall be greatful for all communications from earlier or any future co-workers, and always quite ready to give any further advice.

in order to avoid exhausting the patient too much. Further, in the period of suspension in such cases, there is often an extraordinary increase of weight and undeniable improvement of the general health, which point to a decrease in the virulence of the bacilli still present. The destruction of these can generally be established after 5—10 large doses. Of the truth of this fundamental fact I have now convinced myself in relation to human tuberculosis as earlier for that of animals.

Any falling off in weight frequently occurring at the beginning of the injections is soon again made up, either in the first series of injections or in the first pause.

As an aid in combating the hectic fever I used with advantage Antipyrin in doses of 15 grains, shortly before the maximum rise.

In order to alleviate and avoid the pain which the larger doses often produce locally, I employ massage as well as an addition of 1½ ms of a 10 per cent solution of cocaine. This is taken up in the syringe after the latter has been filled with Tuberculocidin and all air bubbles have been carefully removed.

As regards further supplies of Tuberculocidin application should now be made to the Farbwerke vorm. Meister Lucius and Bruning in Hoechst on the Maine (Telegr. Address Farbwerke Hoechstmain), where a list of those physicians who have already received supplies of the remedy has been sent. The obligation remains however in force, that weekly reports shall be forwarded to me.

The two preceding chapters of instructions are sent to all medical men who have applied to me for Tuberculocidin. I may remark in passing that, I have not refused a single physician who has declared himself ready to fulfil the conditions I laid down.

The matter of the two chapters calls for little alteration ; yet attention may be called to the expression under paragraph 3 of the first chapter, of the apprehension that may be produced by the rise of temperature following the injection, whilst in the second chapter it is emphatically pointed out on the basis of new observations, that "rising temperature is an indication for increased dosage". This view could of course only be adopted after numerous observations, also confirmed by Prof. Koch, had shown, 1st, that the febrile reaction following small doses was not produced by these, but was dependent upon the natural course of the process, and 2nd, that in many cases larger doses were able to reduce the hectic temperature.

It has been to me of special significance that this latter fact was confirmed by Prof. R. Koch, who observed the disappearance of hectic fever on the employment of the injections, its reaccession on their discontinuance and second disappearance when the injections were again resumed.

(To be continued.)

TROPICAL ABSCESS OF THE LIVER.

By J. C. DAY, M. B.,
ASSAM.

THIS peculiar condition of the liver is beyond doubt better understood to-day and treated more successfully than it was a few years back. There has always been great diversity of opinion as to the real cause of these large single abscesses occuring in hot climates. Some have asserted that the abscess is the result of portal infection from the ulcers found in the intestines of dysenteric subjects, and to support this view, they give instances of the frequency with which hepatic abscesses follow attacks of dysentery. Others assert, that the two diseases are entirely independent of each other, and that though many of those who are attacked by dysentery in the tropics also get liver abscess, yet cases of hepatic abscess occur in which there is no history of dysentery, and that are not followed by any dysenteric symptoms. I maintain there is a close connection between the two diseases, and although there may be exceptions, the rule is for abscess of the liver in tropical countries to be connected with a history of dysentery, and there is little doubt the two are both due to the same cause, but the primary infection always takes place in the large intestines, the infection being carried by the blood from them to the liver.

Those liable to liver abscess are:—the intemperate, those exposed to the effects of malaria, and the middle aged of all classes of residents in hot climates. Malaria certainly predisposes to liver abscess as well as dysentery, and this fact will be supported by any medical man who has practiced his profession for any length of time in malarious parts of the globe. Now, although I have referred to tropical liver abscesses as being single, they are frequently multiple. They sometimes attain an enormous size, and have been known to contain as much as 6 to 7 pints of pus. Recent large abscesses have a ragged inner surface, and have no semblance of living membrane. Small abscesses of the liver do not shew themselves by any objective sign, the pus from these abscesses often becomes absorbed, and instances have been known where contracted cavities have been found filled with cretaceous matter, the remains of previous abscesses. When absorption does not take place, we find the liver becomes sensitive to pressure, and the abscess makes its way to the surface and creates perihepatitis.

Abscess of the liver may open into the duodenum, colon, or stomach, or by perforating the diaphragm enter the pleural cavity or the lungs. Thus, we may have the complication of pleurisy and pneumonia.

Abscess of the liver is generally usherd in by chilliness and rigor, followed by a rise of temperature and symptoms of feverishness. Pain and fulness in the right infra-maxillary region. There is generally a dragging sensation when the patient lies on either side. The bowels may be loose or constipated, the motions clay-colored and devoid of bile. There is hepatic dulness, with obvious bulging, and a sense of weight in the right side. Pain in the right side, which may extend up to the right shoulder, and which increases as the abscess approaches nearer the surface. As the case progresses, there is increased fever, night sweats, pain and dulness. Jaundice may or may not be present. Generally a short dry cough with increased and (where there is much enlargement upwards) laboured respiration from pressure on the lungs. The tongue

is dry and furred. Nausea and vomiting is a frequent symptom, and the fever settles down to a hectic type. Tropical abscesses are however sometimes insidious in their development, and where the patient is suffering from continued fever may never be suspected, till fully developed or till it shews itself by opening up by one of the channels mentioned, or till after death. I have known a typical case of the latter kind, where a previously healthy young European was attacked with enteric fever which proved fatal to him on the 26th day after his admission to hospital. At the *post mortem* I discovered a large abscess of the liver, in fact, the organ was a mere bag of pus. Yet, liver abscess was never previously suspected, and the patient had never complained of anything troubling him that suggested disease of the liver.

In the latter stages the liver becomes sensitive to pressure, the most painful spot indicating where the abscess points. The patient becomes extremely prostrated, and there is profuse perspiration. The subsequent symptoms will depend upon the direction in which the abscess progresses, points, and discharges.

The average duration of abscess of the liver is from three to four weeks.

Diagnosis is most surely established by making an exploratory puncture, and to satisfy himself thoroughly, the practitioner should not be afraid to resort to this method of ascertaining with certainty the presence of an hepatic abscess. For, when puncturing for this purpose is performed properly, the risks of injury from it are very slight. Abscesses may be confounded with pleural effusions, acute peri-hepatitis, hydatid of the liver, or a suppurating gall-bladder. Pleural effusious ascend higher up posteriorly than anteriorly, and an exploratory puncture of the posterior wall of the thorax is decisive for the diagnosis. Hydatids can only be mistaken for abscess of the liver from their shape and size, the presence of hook-like bodies in the fluid, and the absence of constitutional symptoms, should enable us to determine the presence of an hydatid. Peri-hepatitis is always accompanied by most acute pain, which is constant and severe, and aggravated by pressure.

Fortunately, the substance of the liver is very tolerant, and is believed capable of a certain amount of regeneration. At the present day, the majority of cases recover under treatment. The smaller abscesses may be considered favorable, as also the absence of severe complication.

When the practitioner has fully satisfied himself of the presence of an abscess, he should not hesitate to evacuate the pus at once. There are several methods of doing this. Cases have been known to recover after a single evacuatory puncture with an aspirator. The trocar has been used for puncturing the liver under antiseptic precautions, and Dr. M. C. Maclean, C. B., M. D., Professor of Military Medicine in the Army Medical School at Netley, describes this operation in a case reported in the *British Medical Journal*, for May 1879, as follows. *The operation was performed by Surgeon-Major Porter, Assistant-Professor of Surgery. The patient being put under the influence of ether, a powerful steam-generating carbolic spray playing on the part. An opening was made with a full-sized trocar between the ninth and tenth ribs. Twelve ounces of thick creamy looking pus having been withdrawn, a drainage tube was introduced and secured, in the usual way; the part was dressed with carbolised gauze and tow, and secured with a carbolised bandage, according to Mr. Lister's method the spray playing until the dressing was completed. At every subsequent dressing, the same method was carried out with scrupulous care, so as to avoid the entrance of uncarbolised air, and the discharge was received in the uncarbolised dressings.* Another method of operating on hepatic abscess has been recommended by Dr. Little of Shanghai, which is as follows:—"After finding the seat of the abscess with a needle, a bistoury is introduced along the needle, which serves as a guide, and cutting through the abdominal wall into the liver, the edges of the wound are opened, a good sized tube introduced and kept in its place with stout silk guards, and a dressing of antiseptic gauze applied over the whole."

JABORANDI IN THE TREATMENT OF ACUTE BRIGHT'S DISEASE.

BY NARESH CHANDRA MITTRA, M.A., M.B.,
RANCHI CHARITABLE DISPENSARY.

IT is not frequently that one meets cases of acute Bright's disease in the out-door practice of a charitable dispensary. I have had a few cases of the nature to deal with, and these, treated with *Jaborandi* gave me the most satisfactory results. Two of these ceased to attend the dispensary before complete recovery had taken place, but in one total disappearance of albumen from the urine, and restoration to normal health, were the ultimate results traced. What happens in these cases is that a sudden chill or exposure contracts the arterioles of the skin, the blood driven off from these is thrown upon the kidneys which as a consequence become congested. This congestion interferes with the normal function of the organs. The result is that, excretion of the urine becomes less in quantity, and moreover, is found loaded with *albumen*. Now it is useless trying diuretics at this stage of the disease, for they either increase the blood pressure in the kidneys or stimulate the organs to increased action. Bearing in mind that any extra stimulation of the congested organs is attended with still further diminution in the quantity of the urine, and the general condition of the patient showing no amelioration, the rational treatment in these cases would be to relieve the congested state of the kidneys by derivative action, and then when the kidneys are in a fit state for action, diuretics supplement the action with good results. The two ways of effecting this derivative action are, by the bowels, and the skin. Action of the bowels may be brought on by the use of hydrogogue purgatives, which are, however, contra-indicated inasmuch as excessive purgation would weaken the patient. The next means is to promote action of the skin. The so-called diaphoretics are not very certain in their action, and cannot be relied upon in these cases. The only certain drug is *Jaborandi*, provided it is given in sufficient doses to produce the

desired effect. The *tincture* is preferred to the *alkaloid*, as the latter has a decidedly lowering action upon the circulation.

Two cases were children brought to the out-door dispensary for treatment of puffiness of the face and eyelids. There was no fever, but the face and the eyelids were perceptibly swollen. I suspected some derangement of the function of the kidneys. On examination of the urine, *albumen* was detected. They were both put on *Tinct: Jaborandi.* In a few days improvement set in, the swelling of the face gradually went down, and before I could satisfy myself of the complete disappearance of the *albumen* in the urine, they had ceased to attend the dispensary. I hear they are doing well at present.

In the third case, a man was sent to the dispensary for puffiness of the face and the eyelids. On examination of the urine by simple boiling, the whole mass of the urine was nothing but solid *albumen*. He was treated with *Tinct: Jaborandi*, and before a week had elapsed, the puffiness had almost disappeared, and the quantity of *albumen* had diminished by one-third. In about a fortnight, no albumen could be found, and all the puffiness had completely gone down. Latterly he was put on a tonic, and was discharged cured a week later. In chronic Bright's disease where chronic congestion had damaged the secreting structure of the kidneys, no good was derived from this derivative action of *Jaborandi.*

OPHIOLOGY,
OR
A DESCRIPTION OF THE SNAKES OF INDIA.

By R. P. BANERJEE, B.A., G.B.M.S.L.,
PACHBADRA, RAJPUTANA.

(*Continued from page 168, Vol. II.*)

EXPERIMENTS.

(1). A dog aged 1 ½ year, stout and healthy, inoculated with poison class A 1. After introduction of the poison, in about 30 minutes the following symptoms were noticed.

It became lazy and peevish, much disinclined for food and drink; looked very melancholic, liked solitude, and wished to be left alone. Hind legs nearly paralysed. Tongue, mouth and throat very dry. Attempts were made to cough, as if something was sticking in the throat. Breathing was not affected. This slothful condition continued for 1½ an hour, when the dog passed a large fluid motion, and pale yellow turbid urine in very large quantity. Eventually all the other symptoms subsided, and within 3 hours of inoculation, the dog was quite well. No treatment was required.

Observations.—Though the dog in this case recovered fully from the poison effects by natural efforts, and unaided by any medicine or other interference, yet, the voice changed in character, and a husky voice resulted; but no other organ was affected. This experiment was undertaken at 10 A. M., the 24th April 1893, and recovery took place at 11. 15 A. M.

(2). A dog healthy and stout, aged 9 months, inoculated with poison A. 2. It showed the following symptoms after 20 minutes:—

In addition to the foregoing symptoms, there were painful manifestations by repeated and loud moans, and the dog was very uneasy, as if suffering from bad colic, flexed all its four legs and sought quietude. It was agonizing to it to be called to loudly, or to be aroused. Breathing slow, carotid pulsation intermittent. After an hour the dog had 2 large motions which relieved it temporarily, Temperature under the tongue was 92°6, and it was now sinking. Pupils dilated. After 20 minutes, another large watery stool was passed, and the dog was faint and very low.

Treatment.—Turpentine draught was given, and after ten minutes the dog seemed to amend rapidly, the other symptoms passing off. The incoherency and weakness remained, and again after 2 hours, a second dose of the remedy was given, which produced 3 large motions, and the dog now was found to be well, and free from pain.

Observations.—The poison introduced in this case was not sufficient to produce fatal effects, still some symptoms of poisoning, though very slow and faint, were noticed. Its effect though less marked and more transitory, was found to affect the cerebellum and the medulla oblongata, and this was inferred from the symptoms—*loss of co-ordination, slow breathing, cramps of the abdominal muscles, and colicky pain.*

(3). A dog healthy and stout, 9 months old, kept off from every kind of food for 6 hours, and then made to swallow one drachm of solution of poison A, 3; (alkali being strong solution of ammonia) after 15 minutes of this ingestion, the dog vomited a large quantity of grumous liquid and felt easy, this was followed by a very large motion, bringing out a large quantity of fœtid fluid, pieces of tape worm (Tinea Solium) and nodules of hardened fæces. The dog now began to rally and recovered without any treatment.

Observations.—In this case nothing particular beyond grumous vomiting and a large stool were noticed. The direct effects were on the mucous membrane of the stomach and bowels, causing *vomiting* and *purging.* There was nothing to indicate affection of the blood or nervous system by the poison in this case. The experiment dated with the previous one (2).

(4). A healthy young dog was treated with poison A. 4; and this case shewed nothing beyond a few acts of vomiting and purging, and these yielded to draughts of cold water with simple remedies—no other symptoms were manifested.

Observations.—Nothing was noticed beyond the irritant action of the alkalies in question, and the poison, if any, must have changed in passing through the stages of chemical action, not unlike other proteid substances.

(5). Two healthy dogs, each aged 10 months, treated with poison A. 5; no symptoms beyond vomiting greenish fluid loaded with ingesta, cysticerci and sarcinæ were noticed. Of course the dogs felt weak at the time, yet, that weakness was not great, and was due to severe vomiting.

Observations.—Vomiting was the result of topical action of the alkali, and absence of all other symptoms shewed the poison to have been destroyed when in connection with strong

and caustic alkalies. This experiment dated the 28th April 1893.

(6). Important, as it throws more light on the value of strychnine as an antidote in snake bites, especially when the strong viperine poison is concerned—

Three stout healthy and strong pariah dogs, aged 8, 9, and 10 months, were respectively treated with poison as follows:—

A. Made to take poison, class B. 1. filtered, the filtrate being used.

B. In which the residue on the filter was used.

C. The poison unfiltered and unmixed B. 1. given.

In all three cases the tongue was scratched to make a small bruise, and present a bleeding surface, in order to allow the poison to absorb more readily.

The symptoms in all began to be noticed in 10 to 30 minutes, earlier in the cases C. and A. The urgency and the severity of symptoms had the same relation. The case B. was less affected than the others.

All three became faint, and soon sank to incoherency. If teased they did not respond. Pupils widely dilated. Breathing hurried, a low rattle noticed at the end of expiration. Thirty minutes after introduction of the poison, the dogs became intolerant to loud sound, light, and heat, and all liked to be left alone. Could not stand, and on any attempts being made to do so, they staggered and fell; even when the legs were adjusted, they were thrown about irregularly, shewing loss of motor power, and the sense of co-ordination. Mouth, tongue and throat very dry; tongue occasionally protruded and lolling. Voice now very low and nearly inaudible. Case B. and A. each voided 3 and 5 stools respectively.

Treatment—Finding that the dogs were now ready to expire, and were wholly under the effects of the viperine poison, I resorted to the strychnine treatment, taking care to regulate the dose of the antidote, as the canidæ are more sensitive to the effects of strychnine.

11. A. M., (1st). 6 min: of 4 grs.—℥i solution—1/20th gr. injected under the skin over the abdomen. 11. 15—A. M. Dogs made efforts to vomit, and the sterterous breathing now changed.

11. 30. Another dose given (now aggregating to 2/20th grain) and the dogs improved. When called to loudly, opened their eyes, moved their ears, and licked water if presented to them; but very unwillingly. Strong light and heat intolerable. Convulsions in the hind legs noticed. 3rd injection given (now aggregating 3/20th grain), at 12 A.M., and the dogs felt better. The paresis of the hind legs seems to be fading away, but the legs are still unable to support the body. Cases C and A passed 3 motions, 1 and 2 very fœtid, bringing out hardened fæcal matters, pieces of tapeworm (Tinea solium), and a large quantity of ropy and highly albuminous brown fluid, alkaline to test paper.

0. 15 P. M. The symptoms very strange, but a slight twitching of the shoulder muscles noticed. The three dogs rallied and recovered, and were well by 2 o'clock at night.

Observations.—The poison in the above case was obtained from an adult (female) Daboia, and the experiment dated 28th April 1893—lasted from 10 A.M to 2 A.M.—The following facts were observed.—

1. Introduction of the poison by the mouth was as effectual as by intravenous or other methods.—

2. Poison did not produce bleeding from the mucous surfaces as in cases of snakebites observed by me in human subjects.—

3. Symptoms did not set in too early, and often much later than in man. In man the symptoms were more marked, the convulsions rarely noticed. In 8 cases, I only met with convulsions in one, and even that was very faint. In dogs though the dose was comparatively smaller than in men bitten, convulsions were present in all, though later.

4. Within 15 to 20 minutes the power of co-ordination was equally lost in dogs, not unlike that in man.

5. In case C, permanent paralysis of the sterno-mastoid and other muscles of the right side of the neck occurred, and these were not excitable under electric stimulus, shewing the degeneration to have occurred in the nerve centre (cells), and not in the muscles.

6. During the effects of poison and occurrence of the symptoms, no pain or its manifestations were noticed.

7. The dog that was given the antidote earliest, shewed the amelioration of symptoms much earlier than the others.

8. Dogs were observed to take less strychnine than man, and consequently the doses were very small. The dose that was reached to arrive at safe results amounted to 3/20th of a grain in the average, while men took larger doses.

(7). Experiments with poison class B. 3. was not undertaken, presuming the results to be arrived at, to be only a milder production of the symptoms, and hardly to differ from those of experiment No 6.

(8). Two dogs healthy, stout, and 8 and 9 months respectively, were treated with poisons B. 3 and 4. respectively, presented very mild symptoms of snake poisoning, and yielded to 2/20th grain of strychnine each, and quite recovered.

Observations.—Nothing particular noticed beyond that the symptoms were manifested later, and were milder in character, and soon after the first dose of the antidote began to mend, and subsequently recovered.

(9). Four dogs, healthy and strong, aged 8, 8, 9 and 10 months respectively, treated with poison B. 5, shewed no symptoms beyond vomiting and purging, and after two or three attacks rallied and recovered.

Observations.—No particular symptoms noticed, apparently the poison under the effects of caustic alkalies undergoing changes due to chemical action and reactions, is changed to inert matter.—Here my short experience comes near to that arrived at by Mr A. Kanthack. (Jour Physiol).

Remarks.—From the foregoing experiments, and those undertaken before these in March 1893, I arrived at the following conclusions, and it cleared all doubts about the strychnine in

my hands, both in dogs and man, as far as viper poison was concerned :—

(i). Action of the viper poison is slower in dogs than in man.

(ii). The effects are only secondary manifestations of nervous lesions.

(iii). Apparently the cellular elements of the nervous system are affected, especially the motor centres.

(iv). Symptoms manifested affections of the cerebellum, medulla oblongata, and spinal cord, action of the vagi more affected. It was particularly and carefully noted, that at first the breathing was slow and then accelerated, and soon became hurried, in proportion to the effects of poison on the vagi nerves; the inhibitory force withdrawn, the rythm of the heart increased. Again the sense of co-ordination and motor power in the lower extremeties were soon lost. Convulsions, coma, incoherency, fall of temperature, and accumulation of blood in the veins, evident from turgid state of mucous membranes and presence of capillary bleeding (diapedesis), were not primary, but secondary affections from nervous lesions.

(v). Strychnine really controlled the bleeding and symptoms, accordingly as it was administered early or late. The later the administration the more doubtful and lasting were the symptoms.

(vi). Convulsions often noted in dogs, were very rarely (in one of the 8 cases in man) noticed in man;—while capillary bleeding so frequently noticed in man, was usually absent in the dogs.

(vii). The dilatation of the pupils was very peculiar, inasmuch as to be watched with interest in snake bite, because dilatation persisted with the effects of the poison, and in accordance with diminution or increment of this dilatation, the dose of strychnine should be regulated. Cases were not safe until such dilatations had gone and disappeared.

(viii). The occurrence of bleeding and venous stasis may be accounted for by paralysis of the vaso motor nerves.

(ix). Even in bad cases of viperine poisoning the difficulty of breathing was not noticed.

(x). Usual general appearance of the victim :—ghastly pale and anæmic, though bleeding from the mucous surfaces was invariably present.

(xi). Coma was never complete, delirium was not an unusual symptom in many cases, it occurred in men as well as in the dogs under experiments.

Conclusions.—In concluding my remarks and observations in connection with the foregoing experiments and cases of viper bites in man, I beg to observe that my experience showed that the dose of the antidote must invariably be regulated by the followlng circumstances :—

(*a*). Urgency of the symptoms.—
(*b*). Coma supervening.
(*c*). Breathing being affected.
(*d*). Cardiac pressure and rythm being affected.
(*e*). The dilatation of the pupils should always be a *criterion* to push the strychnine a little further.
(*f*). It is imperative not to be coercive, but kind and affectionate to the patient. Officiousness is more harmful than a sympathizing heart, which keeps up strength in the patient labouring under the double effects of shock and poison.
(*g*). The experiments upon dogs, considered physiologically with regard to man, never shewed the identity of organs and effects of drugs.—It was noticed, that the motor centres of dogs were not easily affected by the viperine poison, by the paralysis coming late, and strychnine produced its effects too quickly. The reverse was the case in man.
(*h*). My short experience has taught me to discard all further experiments upon the lower animals, which have been so often the only method of investigation by many eminent men on their way to discover an antidote, from time immemorial, because, the organs of lower animals though analogous are not similarly effected, and therefore such tests are only doubtful and deceptive.
(*i*). I put strychnine to a crucial test, and tested it *inductively and deductively*. I administered the strychnine and then introduced the poison (viperine, that being available here at this season of the year) and obtained good results. Again, I introduced the poison and treated with strychnine, and this again resulted in recovery. However, no method is hit upon to fix the proper dose of the antidote, and this is evidently impossible, for no two cases could be had with the same constitutions, with equal doses of poison, or to have equal amount of will-power or sense to control certain symptoms, therefore, the dose of the antidote must be regulated by the conditions of the patient, quite regardless of the ideas of the snake poison or strychnine; that is, all prepossessed suppositions should vanish before treatment has commenced. The sure way to success lies in treating the case for symptoms. So long as the symptoms are persistent, push on the antidote, anything beyond that would not only be uncalled for, but would be criminal.

(*To be continued.*)

A Mirror of Practice.

A PECULIAR CASE OF SNEEZING CURED BY ARSENIC.

By D. ROBERTSON, W.M.O.,
GOVERNMENT HOUSE DISPENSARY,
OOTACAMUND.

W. S., Eurasian, 22 years, was treated for distressing fits of sneezing, which came on every morning on applying water to his face in the act of washing. Water applied to other parts of the body in the morning had no such peculiar effect. Directly water came in contact with the patients' face, he was seized with a violent attack of sneezing, which after lasting a few minutes gradually subsided. Water to the face at

other times of the day excited no fit. The attacks in the morning came on when either hot or cold water was used.

Treatment.—I gave the patient 5 *minims* of liquor arsenicalis, three times a day, which after a time effected a permanent cure. I saw the patient some eight months afterwards, and he was then free from any further attacks.

CASES FROM THE CIVIL HOSPITAL, DELHI.

By Assistant-Surgeon Mul Chand,
In Charge, Civil Hospital.

(Continued from page 169, Vol. II.)

Case V.—Roopram, Hindoo male, aged 50, admitted into Hospital on 18th April 1892, for gangrene of right arm, the result of a tight bandage put on by a barber, for fracture of forearm.

Symptoms.—Arm gangrenous and sloughing; suppuration set in up to the shoulder, in the meshes of the biceps muscle, &c., patient very weak and emaciated with little or no hope of recovery. He came to Hospital a week before in a better state, and would not then consent to amputation, the only chance left for his recovery. He left the Hospital and put himself under the treatment of a private practitioner.

Treatment.—After communicating the danger of the operation at so late a time, his arm was amputated at the upper fifth by the anterior and posterior flap method, and sutured and dressed under strict antiseptic precautions, the patient having been chloroformed previously. The only difficulty during the operation was to avoid including a portion of the sloughing soft parts in the anterior flap (the posterior flap being fairly healthy). The amputation was not performed higher up for fear of increasing the chance of death. The patient made a good recovery in spite of his critical condition previous to the operation. Stump healed by first intention at the sides, and the central part filled in by granulations after suppurating for a few days.

All of a sudden severe diarrhœa set in on the 26th, and signs of septicæmia made their appearance, but under appropriate tonics and good food, he gradually came round, and took his discharge quite cured on the 26th May 1892, 5 weeks after the operation.

Case VI.—Natha Singh, Hindoo male, police constable, age 28 years, admitted on 26th May 1892, for a penetrating wound of the abdomen, said to have been inflicted by a penknife during a scuffle, while attempting to arrest a lunatic who had wounded another man in the street, and who was running amuck in the city.

Symptoms.—Incised wound 1½" long, transverse in direction, situated in the right hypochondriac region, and 2" deep; the wound apparently extending into the liver; profuse bleeding, bedding drenched with blood, and the patient in a collapsed condition.

Treatment.—Wound thoroughly washed out with antiseptic lotion, sutured with catgut ligatures, and dressed antiseptically. Opiate administered, and ice ordered to be applied on and about the wound, and milk and ice internally. Next morning his abdomen became tympanitic and painful on pressure, temperature went up to 100° and to about 103°, in the evening. Complained of great thirst, and had no sleep, but the wound was perfectly sweet, and there had been no hæmorrhage during the night. Ice and milk continued, and a draught of opium administered. On the following morning all the troubles had vanished, wound healthy and healing by first intention. Patient took his discharge on 4th June, quite cured, *i.e.*, on 9th day after admission.

(To be continued.)

A CASE OF ACUTE PELVIC CELLULITIS AFTER LABOUR, WITH LOCAL PELVIC PERITONITIS.

By R. N. Ghosal, L.M.S.,
Calcutta.

A month ago, I was called in to attend a Hindu lady, the wife of a respectable native of Sikdarparah, Dacca, aged about 30, eight days after her sixth confinement. She was suffering from severe abdominal pain and tenderness, with fever and diarrhœa of an alarming character, and passing peculiarly unhealthy fæces. I took the temperature. It was 103F. On my first entrance into the confinement room, I saw that it was improperly ventilated, poorly lighted, and was situated near the opening of a house drain. I advised the immediate removal of the patient to a better room in the house. After half an hour's argument with the members of the family, I succeeded in removing the patient to a room which had been long used as a kitchen. Though the room was not to my liking, yet it was comparatively healthy, being situated in the third story away from the drain connections. The difficulty was that one side of the room was exposed to the intense heat of the sun during the day, and to the night air during the night. I had no other alternative but to yield to this arrangement.

After an examination I prescribed—

℞ Liquor opii sedativa ... ... ℥ xx.
In water.

One dose, to be taken at once.

A simple fever mixture to bring down the temperature, and as a local application—

℞ Ext opii ...	... ...	... ʒ i
Ext belladonna	... ...	... ʒ ii
Glycerine	... ...	... ℥ i

To be applied over the painful part of the abdomen four times a day, and linseed poultices over this in rapid succession. I also ordered turpentine stupes and dry fomentations twice daily. This was continued for 2 or 3 days. The temperature became normal. The discharges were very scanty, but sweet. I did not think it necessary to examine the genitals at this stage.

I prescribed quinine in pill of grs x, once daily, during the remission. The diarrhœa and pain were kept in check by the previous administration of opium. After the administration of quinine pills the diarrhœa returned, but the pain was less severe. I stopped the pill and prescribed quinine in solution, which did not irritate the stomach, and consequently the diarrhœa abated.

She was perfectly well for 4 days, and then suddenly the temperature rose to 104°F, after midnight, on the 12th day after her confinement. On the next morning I took her temperature, it was 103°F, and gradually rose to 104.6°F. I gave one 5 grs. dose of phenacetine, which had very little effect. The pain returned, and there was noticed a fusiform swelling, very painful, at the left iliac fossa; there was fresh hæmorrhage and also diarrhœa. I told the husband of the patient of the necessity there was of examining the genitals. He at first refused, and wanted a midwife to do that for me. I declined such a procedure, so he at last yielded, and the patient being aware of her critical position did not make any further objection.

I did not find anything moving with the discharges; they were perfectly sweet. There was one ulcer noticed at the anterior wall of the vagina. I did not find it necessary then to explore the uterus and to disturb the involution which was gradually progressing. I did not notice any membrane at the os, and found it tolerably closed.

I consulted Dr. Doyal Chandra Shome, who agreed with me in continuing the medicines as before. As the bowels were constipated for 2 or 3 days, I asked whether any gentle aperient was necessary, and he agreed with me in not prescribing any purgative. After a day or two, the temperature became normal. I did not prescribe any more quinine, but a little decoc: cinchona was added to the mixture that was continued. The hæmorrhage gradually subsided. After 5 or 6 days of remission, there was another relapse. I gave her a purgative composed of ʒii of castor oil, which moved her very well, and she had a copious stool of solid fæces. But the pain over the abdomen returned with renewed vigor, and the patient was left in a precarious state.

At this time, I noticed a very large swelling, intensely painful at the cæcum, threatening to be an abscess. I accordingly consulted with Dr. Doyal Chandra Shome again, who agreed with me in continuing all the medicines, and prescribed gentle fomentation of decoction of poppy. The pain gradually subsided, probably the result of a dose of liquor opii sedativa, given to her previous to the consultation. Phenacetine was given to reduce the temperature. The peculiarity was that, there was a tendency to constipation, and accordingly sulphate of magnesia in drachm doses was added to the mixture continued every 3 hours. This moved the bowels regularly every morning.

She gradually recovered without quinine, and gained flesh and strength. I left her in a good state of health, though there was a little tenderness remaining at the left illiac fossa.

TREATMENT OF VOMITING IN PHTHISICAL PATIENTS, WITH REMARKS.

By J. C. DAY, M.B.,
ASSAM.

Having had a number of cases of nausea and vomiting in consumptive patients from time to time, and having observed with great care the varied forms of these attacks, I have attempted to classify them according to their exciting causes, and give in detail here, the remedial agents employed by me for each form. The forms of vomiting were:—1. the mechanical vomiting from the excitation of the respiratory nerves, which is sometimes combined with a certain degree of pharyngeal or gastric irritation; 2, gastric vomiting properly so-called; central and bulbar vomiting. These varieties of vomiting differ, not only in their mechanism, but also in their period of appearance, and in the nature of the vomited matters, etc. The mechanical vomiting of phthisical persons, which may be called direct vomiting, occurs at the outset of the disease. It brings up substances which are in a large measure alimentary. The first indication in this case is to calm the cough. This is more easily said than done. Emollients, alkaline and soothing gargles were employed. When the irritation of the pharynx was deep-seated, modifying astringents (alum, tannin confection of roses, etc.) were resorted to, and even such remedies as tincture of iodine, nitrate of silver, or ammonia. What were most often employed were the narcotics, the fumes of belladonna, datura, and then anæsthetics and antispasmodics. In this contingency, I touch the phrynx with a solution containing one-sixth of bromide of potassium. Gastric vomiting is the most common of digestive disorders in phthisis. It occurs in three-fifths, of patients. It is the vomiting of the middle period of the disease. The matters are not purely alimentary; they are substances more or less changed by the digestion and fluid. Certain foods are more susceptible to the action of the digestive fluids than others. They include also mucus and bile. There are four kinds of gastric vomiting. 1. Vomiting from apepsia. For this bitter and tonic digestives such as gentian, calumba, are to be used, or, in case of need, an emetic; in default of the latter, chloral, and chloroform in preference to ether; and diastase, because of its peptic qualities, may render real service in these cases. 2. Vomiting from 'hypercrinia,' observed especially in cachetic patients, is combated by absorbents (magnesia, charcoal) or astringent powders (rhatany, calumba). Powdered opium renders great service in these conditions. 3. The vomiting from convulsive gastralgia demands the administration of narcotics (opium, chloral, ether). The application of ether-spray to the epigastric region and the back gave good results. 4. Vomiting by gastric irritation. Here I regulate the diet, and the meals are given at fixed times, and milk-diet prescribed. Alkaline remedies and iodide of potassium in small doses. Opiate blisters have been often applied, and in case of failure, revulsive agents (tincture of iodine and blisters) should be used without fear. Central or bulbar vomiting occurs at the outset of tuberculosis, but usually at an advanced stage. It may be symptomatic of an encephalic irritation, or the effect of bulbar anæmia. The vomited matters consist mostly of mucus and bile. The therapeutic agents at the disposal of the physician are first chloral, then chloroform, opium, aud morphia, as well as bromide of potassium, in doses of 15 to 30 grains at meal-times.

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The Medical Reporter.

CALCUTTA: JULY 1st, 1893.

In our July number of last year, we drew attention to the great need of India at the present in the way of obtaining efficient nursing help. It is a want felt throughout the country and is therefore, rightly, a need of India; even in the larger cities or presidency towns trained nurses are scarce, and it is most difficult in Calcutta, the chief city of the empire, and even sometimes impossible to obtain efficient nursing help. For want of such help at a critical time, when it is absolutely necessary that the most minute instructions of the doctor should be intelligently and faithfully followed, how many fatal results ensue? How many lives that might have been saved, have been cut off in their youth or prime? and often valuable lives too. Every physician throughout the country numbers such cases among his painful experiences; and the recollections connected with some of these are very sad indeed, owing to family associations. The supply of the raw material, of untrained nurses, is abundant in Calcutta, Bombay and Madras, the latter especially, have a good supply, women who, because they have been once or twice beside the bed of a patient as paid attendants, dub themselves as sick nurses and assume, that they know all that is necessary to make them efficiently helpful to the doctor. These unskilled nurses are the doctor's *bete noire*; they are the thorns in the side of every practising physician, and every effort should be made by the profession in India in helping any scheme, which would make untrained nurses of no value, by supplying a sufficient number of skilled nurses. We write this paper to support a scheme which is being talked of in England to establish a suitable nursing institution for India, which would supply trained nurses where required, and when required, and to all classes of the community.

The establishling of a nursing institution for India on correct principles of training for the nurses, and a common sense basis of participation by all classes of the people who would require their help, would make it a success, and we would be hopeful that the amateur nurse would not then be, as at present, a cause of anxiety to many a family physician. He is so helpless in the presence of the amateur nurse, who smilingly and willingly volunteers services, and promises to be very cautious and very careful, to be most obedient in fulfiling all the doctor orders, and is injudicious all the time. Few women, very few indeed, are born nurses, it is a rare endowment, yet every amateur nurse believes that she has this gift. It requires more than the brusqueness of an Abernethy to enable a family physician to reject such willing cheerful services, and in nine cases out of ten he accepts such services, and places himself on a rack of anxiety regarding the welfare of his patient. Now, if there was always available a sufficient supply of trained nurses from a suitable nursing association, the doctor could refuse without rudeness the services of the amateur nurse, however smilingly offered; because, the trained nurse would always he available, and in a sick room no one can displace a skilled nurse, her presence is very soon felt in the order and quiet which marks every arrangement, every movement about the room; the patient is comforted and rested, and the doctor feels thankful to leave his patient in such care. In the presence of the trained nurse the amateur nurse of the family realises how little she knows about caring for the sick, and retires generally to the position of assistant to the nurse proper; and then the amateur nurse is really useful.

In our article of July we advocated the establishing of a nursing institution, on similar lines, to that adopted in Lady Dufferins' great work for affording medical aid to zenana women, that is, the nursing institution should be, like the Zenana Medical Aid Institution, for all India, having certain centres of work with branches all over the country wherever feasible. A funded capital would be necessary of course, but we believe such a capital would be provided by all aiding according to their means and without hesitation. A proper setting forth to the public of the proposed scheme, and a sensibly worded prospectus, would be necessary; and such a prospectus would require to be supported by the names of ladies and gentlemen in whom the public could have confidence. Situated as Europeans and their descendants are in India, a nursing institution on a great scale is necessary, and as we believe this population will be much increased in the coming years, Europeans coming out each year in increased numbers, and the Eurasians growing in numbers by natural process, such a nursing association or institution will be still more necessary. The inaugurating and establishing of such a nursing association would be a genuine and a great philanthropic work, and we hope to see it begun soon.

We believe the scheme should be founded on a broad basis, willing and able to afford aid to all classes of the christian community. The Natives of the country, however civilised, however wealthy and honorable in position socially, do not understand or appreciate skilled sick nursing; so for the present, and a long while to come, they would have to be left out of all consideration in adopting a workable plan for a nursing association for India; hence the association would not require to be so very great as the Zenana Medical Aid Association necessarily must be; because, the former would

only have to minister to thousands, whereas the scheme of the latter has in its scope the object of ministering to hundreds of thousands. The nursing association should have its centres at Calcutta, Bombay and Madras, with its branches in all big provincial towns, with minor branches in the lesser towns wherever Europeans may be in sufficient numbers to justify such an organisation. Trans-gangetic India or Burmah may be linked with India or have an independent nursing association. With such an association working in our midst, we would indeed have reason to be thankful for the valuable lives that would annually be saved to the country.

Such a scheme we learn has been organised, or nearly so, in England, and we are glad to have the news, for we are in hearty sympathy with such laudable efforts and true philanthropy, shown by friends of India so far away. Thanks and praise, and no meagre measure of either is justly due to those who have thought out the scheme, and are now embodying it in a practical form, and have proceeded so far practically as to be arranging for the despatch, as a preliminary step, of more nurses to India, and exclusively for work in up-country stations, for there is no doubt that it is these stations of India that require nurses well skilled in their work. We shall welcome the first batch of these nurses, and will heartily wish them God speed in their labor.

We have no details of the scheme as proposed in England, and are therefore unable, to offer comments on it or to criticise, sympathetically of course, all criticism should be with the object of making the defects of the scheme, if any, so prominent, as to lead to their removal, and of strengthening the hands of the promoters, giving them the encouragement which is so necessary for the success of all such public measures.

If the nursing association be based on a system of membership, as we belive it is proposed by the promoters in England, then the right method would be to include in membership every English and Eurasian householder, from the Member of Council to the poorest working man; thus, the whole community intended to be served should have an interest in the welfare of the association, and it has been well said, that a monetary interest is generally keen. We think to reach all classes and obtain them as subscribers, it would be necessary to have district committees, who would look after the work of obtaining subscribers, and would be competent to grant the application (of those who had the right to do so), for nurses in cases of illness. For the services of these nurses patients or their friends should have to pay fees, varying in amount to their means, and these fees should of course be in addition to the proportionate monthly or quarterly subscription. We say proportionate, because the subscription payable should be on a sliding scale, and adopted judiciously to the means of each subscriber. We believe this plan for such a nursing association would be found workable, and popular. But it would be absolutely necessary to obtain the public confidence from the beginning, and this could be acquired only by the founders of the association and those connected with its development being men and women in whom the public would have perfect trust. Public opinion is a keen inquisitor, but once let it be satisfied in its inquisition, and then it is led and it leads the people. All public institutions have had mostly a small beginning, but wherever public confidence has been gained, followed by public sympathy, the growth of these institutions has been rapid, yet stable, till now there are many such institutions that may be called national; and we believe it would be the same with regard to the proposed nursing association out here.

As we have said the purchased experience of the German nursing institutions should be availed of for the purposes of the Indian association. They are, indeed, founded and worked on an excellent plan (we regret that the limits of this paper will not permit us to go into the details), they work without internal or external friction, and are able and prompt in giving the necessary help to all classes of the people. The nurses of these institutions may be seen in the Imperial palace, in the palaces of the nobles, the mechanic's home, and the ploughman's cottage; and they all know their work.

The method of selecting, training and educating the nurses of the German nursing institutions, should certainly be followed in its entirety by the Indian association. Strong, healthy, and intelligent women should only be selected, and their training should be complete, both in the wards and in the lecture hall, the hands and the head should both be instructed. The proper training and educating of nurses is a very important matter, for we want the very best nurses obtainable, and they cannot be obtained without a methodical system of education.

IN our last issue we dealt with the subject of sea-voyages and the benefits to be derived thereform. We purpose in this paper to briefly point out the advantages of sea-bathing. The subject is one which needs a little attention, as the literature referring to it is rather obscure. Sea-bathing may be either hot or cold.

Cold Sea-bathing.—We are all aware of the benefits derived from sea-bathing; but we have perhaps omitted to consider the very numerous contra-indications to its use. The experience of M. Jules Simon, of twenty years in private practice, and at the *Hôpitaux des Enfants-Malades,* enabled him to point out some of the indications for and against sea-bathing. We learn from his remarks, that sea water has nearly a uniform temperature, rising a degree in July, remaining stationary in August, and sinking gradually in September. It does not follow the atmospheric variations, but remains at from 15 to 20 deg: centigrade (59 to 68 deg: Farh:); a constancy which is due to its richness in salt, of which, besides carbonates and sulphates, it contains 25 to 27 grammes (375 to 405 grains) to the litre, and in addition there are bromine, iodine, and organic matter. Speaking generally, a cold sea-bath produces at first a more or less acute sense of oppression, the respiration and circulation become slow, the skin blanches, the blood rushes to the central organs, especially to the head. After a few seconds, this is succeeded by an agreeable reaction; there is a sensation of relief, the circulation quickens, the

skin becomes warm and pink, and the respiration deepens. This reaction varies with the age of the individual, more especially in children. It also varies with temperament and the general state of the health; but if it do not occur, there is a secondary rigor with a sense of oppression, even greater than that on entering the bath. In children who are too young, or too delicate, or in old people, or if one merely stays in the sea too long, this secondary rigor is not uncommon, causing an injurious loss of heat, with congestion of the internal organs.

After the bath, a general lassitude is observed, and what is of much more importance, nervous excitement, depending upon the afflux of blood to the brain. When the baths are properly indicated, these consecutive phenomena are little marked, and diminish after a few times; while in the interval the strength increases, appetite becomes keener, digestion more easy, the circulation of lymph and blood more rapid, the pulse larger and fuller, the subcutaneous tissues firmer, and the lymphatic glands diminish in size.

In children, and especially in little girls, constipation is not an uncommon occurrence, and if not attended to is likely to prevent the good result which might be otherwise expected. Diarrhœa at the sea is not the result of sea-bathing, but of impure water and seasonal influences. In the case of children it is well to direct the attention of parents to these two points: constipation and cerebral excitement. If they be not attended to, the head becomes heavy, the temper sharp, the nervous susceptibility extreme, the appetite diminished, and the regular action of the digestive organs very seriously deranged.

Warm Salt Baths.—With tepid or warm sea-water, the congestive action is much diminished, but not altogether prevented, and its effects may be noted on the circulation, the respiration, the nervous system, and in females on the genito-urinary organs. With respect to the latter, women with congestion of the genito-urinary apparatus are bad subjects for any kind of sea-bathing.

In addition to the influence of the sea-bath, we must not forget the exciting action of the saline atmosphere, which especially is noticeable in nervous children; their sleep becomes disturbed, and their attacks more violent and frequent. Those suffering from hysteria and epilepsy instead of benefiting are made worse by sea-air.

Among the chief contra-indications to sea-bathing, are the extremes of age, before 2 years and after 50 to 55 sea-bathing should be forbidden, but washing with warm sea-water can be permitted. Children in whom there is observed what is called cerebral irritation, who are known as irritable subjects, the children of hysterical or epileptic parents, should not be sent to the sea-side, for even without bathing, the sea-air excites them; and many attacks of congestion and meningitis have arisen thus. In the case of adults, sea-bathing in plethoric subjects of apoplectic tendency should not be allowed, nor in the case of patients with cerebral or spinal tendency. Cases of chorea should only be sent to the sea when the nervous symptoms have disappeared, at which time the debility resulting therefrom may be much improved. We have already referred to hysteria and epilepsy. Rheumatism cardiac disease, albuminuria, and Bright's disease, are all equally better away from the sea, and the same is true of all cutaneous affections, ophthalmias, and chronic inflammation of the external auditory meatus. In cancer and tubercle, very little good can be hoped for; in many a case harm results. In some cases of tubercle there is undoubtedly much benefit, but such cases are the exception and not the rule. Cases of chronic catarrhal bronchitis, emphysema, and asthma should not be sent to the sea-side. Finally, we must mention that, young girls with ovarian pain and dysmenorrhœa should be recommended sea-bathing with very great caution, on account of the liability of producing pelvic congestion. The principal indications, for sea-bathing are scrofula, scrofulous enlargements of glands, scrofulous joints, especially white swellings, scrofulous ozœna, chronic scrofulous bronchitis, also rickets, chlorosis, the anæmia produced by dwelling in large towns, chronic dyspepsia, infantile paralysis, and the paralysis of convalescence. All children and adults generally benefit by going to sea and sea-bathing, except in those in whom the contra-indictions which have been mentioned above exist.

We have much pleasure in adding another article to the subject we have referred to before. It is from the pen of one of the best writers in India—Mr. James W. Furrell, in the *Indian Daily News*, of which paper he is now the Editor. We also take this opportunity of congratulating the proprietors in having been able to secure his valuable services. Our readers will notice in the paper soundness of argument, and elegance and grace of diction. "A Commission has been appointed, and will, in all probability, begin its sittings, during the present week, at Lucknow, to enquire into the contagious diseases question, as it affects the army, and into the working of Cantonment General Hospitals. We will not attempt to forecast the probable outcome of its enquiries; but it is notorious that the recent action of Parliament has led to a state of things which it would be no exaggeration to describe as appalling; and, if the result should be to bring this fact home to the Government here and in England, in a form that would convince them and Parliament of the absolute necessity of remedial legislation, as far as Cantonments are concerned, the gain to humanity would be immense.

One of the misfortunes inseparable from our position in India is, that the British nation, regarding this country as a sort of outwork, or dependency, feels justified in assuming a measure of control over its affairs which, in some instances, is fraught with mischief. Without, in any degree, advocating a policy which would tend to loosen the bonds that connect India with England, we cannot ignore the fact that in many questions the Local Government is in a far better position to judge of the requirements of the country, and to frame its legislation with regard to them, than the Home Government can ever be.

In all Imperial questions, it is only right, and it is further most desirable, that the House of Parliament should have the power to control and direct the policy of the Government of India, in cases in which this may be held necessary; but, on the other hand, there are certain problems which have to be solved by the Local Government, and for the due solution of which it alone possesses the requisite data. Such a question is this, of the sanitary control of cantomennts, into which the purist Paul Pry has lately been peeping, with the result that, in accordance with the intrusive habits of that individual, the late Commander-in-Chief has been "interviewed" on the subject. From one point of view, it would have been better if Lord Roberts had resisted this impertinent intrusion, and had declined to be interviewed; and this, there can hardly be a doubt, would have been his course of action had he been dealing with people whose methods were as frank and straightforward as his own; but he probably recognised the fact that his silence would be only too eagerly seized upon by the agitators and misrepresented to their own advantage. Men, and—"*horresco referentes*"—women, who felt no scruples in putting forward deliberate untrue statements, in order to prejudice public opinion against the authorities responsible for the welfare of the army in India, would hardly shrink from adopting similar means to cast a slur upon individual reputations, however spotless. For this reason Lord Roberts did well to meet his interviewer.

The attempt, then, was to show that Lord Dufferin and Lord Roberts had deliberately ignored the injunction of the Home Government, and, setting the *fiat* of Parliament at nought, had allowed the previously existing regulations, for the sanitary control of cantonments, and for the prevention of disease in the army, to continue in force. This allegation, which, as those who have any knowledge of the subject are aware, was a deliberate falsification of facts, was met by Lord Roberts with that form of retort which our old friend Addison would class as the "lie direct," the only answer which such a baseless charge deserved. But matters can hardly be allowed to rest here. The English Government think fit to interfere with the Indian Government in a question upon which the latter must, in the very nature of things, be the best judge—with the result that the Indian Government has no option but to acquiesce. But it would be a grievous dereliction of a plain and imperative duty on the part of the Government of India if it accepted the situation thus created, without making strenuous efforts to convince the authorities at home of the disastrous consequences of their interference. Fanaticism, unfortunately, is not amenable to logic, or we might dwell on the supreme inconsistency of a public opinion which, while accepting the general principle, that the prevention of such diseases as come within the scope of preventive medicine is one of the first duties of the State, and while calling for drastic measures to arrest the diffusion of other contagious diseases, insists upon full scope being given to one such disease, which, though, perhaps, the most terrible of them all, is eminently preventible, to run riot without any effective check whatever, When, not long ago, it became known that a leper was vending meat in Smithfield Market, so great an outcry was raised, that, in a few weeks from the occurrence of the incident, a Commission was appointed to investigate and report on the whole question, with the avowed object of adopting measures for the segregation of lepers, a course which the contagious nature of the disease was held to render incumbent on the Government. But here we have a disease more terrible than leprosy, inasmuch as it is not only infinitely more contagious, but, while leprosy in ninety-nine cases out of a hundred, ends with the individual, descends to generations yet unborn. Yet, out of deference to a false and ignorant sentimentality, the Government is deprived of the only effectual means of protecting its own soldiers against this disease.

The army in India is so important a body, that no precautions should be neglected that tend to keep it in health, and, *pro tanto*, in a state of efficiency. The health of our troops in India has, as we have said, undergone an alarming change for the worse in the last five years. The amount of inefficiency and invaliding due to the class of diseases which the cantoment sanitary regulations now under discussion had hitherto kept in check, must force itself upon the notice of all who do not wilfuly shut their eyes to the facts. Whatever may be the objections to the re-enactment of measures for preventing the spread of these diseases among the civil population—and we are well aware that in India, owing to the venality of the police, any such measures are apt to lead to grievous oppression of the innocent—no such objection can be urged against the establishment of regulations for their repression in cantonments. Such measures as would be thoroughly efficient, are easy to devise, and perfectly simple to carry out, and, while entailing no hardship upon the class concerned, would confer incalculable sanitary benefits upon them, and would go far to render our army in India free from the special cause of disability which is at the present moment sapping its vitality, adding largely to its cost, and seriously impairing its power as a fighting machine."

IN another column our readers will find an account of the very influential deputation which waited on Mr. Campbell Bannerman and Lord Kimberley on the 15th of May last, to represent the grievances of the Army Medical Staff. Chief of these was the six years' tour of Indian service, which the deputation strongly urged should be reduced to five years, as recommended by the Camperdown Commission. Unfortunately, the Secretary of State for War could say no more on this point than that it would require very careful examination. We do not doubt the care with which it was examined by the Commission; Mr. Stanhope was convinced of this during his administration of the War Office, and he did everything except carry out its recommendations. But Lord Kimberley, however, was more sympathetic, and he remarked that, if the War Office determined that the rule should be changed, he did not think there would be any serious opposition from the Government of India. Indeed, the cost

to India would be merely nominal, consisting almost entirely in the transport of the medical officers by troopship, in which they would do duty during the voyage. The real difficulty lies in the question of recruitment, the policy of the War Office, as dictated by the Treasury, being to work the department with as small a staff as possible, employing retired officers wherever they can be utilised. Such a policy is simply suicidal, if there is any chance of our being involved in a great European war; but it is cheap—and that is the thing in politics. On the subject of the not splendid pay in India of Brigade-Surgeons, Lord Kimberley could not hold out any prospect of relief. Indeed, that is one of the few points on which the India Office has ventured to assert itself; and it consistently refuses to sanction an increased rate of pay under regulations issued without its own consent. It is very unfortunate for the Medical Staff that these inter-departmental frictions should occur, and it seems to us that the War Office cuts a very poor figure, when it engages acknowledged professional men on certain conditions as to rank and pay, and then orders them to carry out their part of the contract in a country where they enjoy the rank indeed, but not the pay attached thereto.

Medical News Letters.

LONDON LETTER.

[FROM OUR OWN CORRESPONDENT.]

THE LONG SPELL OF DRY WEATHER.

THE most unusual spell of dry weather has just come to an end. In eleven weeks there has only been one day on which rain fell in London. It is the longest period without rain during the last 50 years, rain usually falling at least once in a fortnight. Considerable alarm was felt about the water supply, many of the water companies having issued requests that consumers should not be wasteful. The effect on the health of the metropolis seems to have been rather beneficial than otherwise, the death rate, especially from pulmonary diseases having been very low.

But a new scourge has broken out all over England in the form of small-pox. In London alone, over 1000 cases have been under treatment in the small-pox hospitals during the present year, and the number of fresh cases are now averaging nearly 50 *per diem*. In most of the provincial towns, also, a number of cases are occurring. Fortunately the disease is not of a very severe type, the death rate not being more than 5 per cent. This epidemic has proved a nemesis for many of the anti-vaccinators, for in several cases, children, whose parents have refused to allow vaccination, have suffered severely from the disease. Re-vaccination is being very extensively practised in London. In the House of Commons, the other day, a motion was brought forward to abolish compulsory vaccination, but fortunately was defeated by an overwhelming majority. Several physicians are now attempting to use antiseptic precautions before and after vaccination. The skin of the arm is rubbed with 1 in 20 carbolic acid, and after the lymph has been inserted a cyanide gauze dressing is applied. It has been found after these precautions that there is less pain and no signs of inflammation in the arm, the course of the pock, however, not being interfered with.

DEATH FROM OVERSTRAIN.

AT a recent meeting of the Royal Medico-Chirurgical Society, Dr. Clement Dukes of Rugby, brought forward the case of a boy aged 13 years who fell down dead during a "run" at Rugby School—(A "run" is a long distance race of from 10 to 20 miles distance). The *post mortem* examination was made in the presence of Dr. Broadbent, and Prof: Foster, and no disease of the heart was found. It is suggested that death in such cases is due to the disintegration in the blood of the accumulated products of muscular action, and that the cardiac failure is really due to these products acting upon the vital centres in the medulla. Dr. Hunter suggested that excess of carbonic acid in the blood might be the cause of the disintegration.

TREPHINING THE SPINE.

Two cases of trephining the spine for glioma of the spinal cord have recently been undertaken in London, unfortunately the ultimate result was unsuccessful, but in both cases the tumour was found and removed, and it must be admitted that a brilliant medical diagnosis had been made. It may be remembered that in 1886, Prof: Horsley published a case in which he had successfully removed a glioma from the dorsal region of the spinal cord. The patient had been paraplegic for a long time, but completely recovered his locomotory powers after the operation.

The first of the recent cases occurred at King's College Hospital, under the care of Prof: Ferrier. This distinguished neurologist diagnosed the case as one of tumour, and indicated the exact spot at which it would be found. At the operation the tumour was found at the point indicated and removed without difficulty, but unfortunately the patient died of shock. Much nearer success was the second case which was under the care of Dr. Sharkey, in St. Thomas' Hospital. The tumour was found at the point indicated, and removed; the patient went on favourably for a few days, but died a week later from purulent meningitis. These results, at first sight, are not encouraging, but a greater attention to antiseptics, and the adoption of every means in our power to diminish shock, hold forward a sufficiently reasonable hope of success to justify the repetition of the operation, especially, as recurrence of these gliomata is not much to be feared.

EXPERIMENTS ON ARTERIES.

AT a meeting of the experimental Research Club, Mr. Ballance showed some experiments to illustrate the effects of transverse, and longitudinal wounds of arteries. It is stated in nearly all the text books that the hæmorrhage is more severe after a transverse than after a longitudinal wound of an artery. Mr. Ballance, however, shewed by his experiments, that the opening in a distended artery after a transverse incision is a slit, and that the escape of blood is of a narrow fan shape,

after a longitudinal incision, on the contrary, the wound in the vessel is elliptical, and the jet of blood is proportionately larger. He also shewed experiments proving that the pressure in aneurism is altered more quickly by any change in the general blood pressure, than is the pressure in the arteries of entrance or exit.

THE LONDON SOCIETIES, ETC.

DR. Pavy has been elected President of the Pathological Society for the ensuing year, the honour is a just tribute to the work he has done with reference to diabetes. Another distinguished physician, Dr. Bristowe, occupies the Presidential chair at the Medical Society. Dr. Bristowe is well fitted for the post, as, to his deep knowledge of medicine, he unites a keen interest in surgery. The meetings of all the Societies have now been discontinued till October.

In the Exhibition of the Royal Academy of Painting, one of the most striking pictures is that of a dinner party given by Mr. Ernest Hart, the Editor of the *British Medical Journal*. It is painted by Mr. Solomons, and represents Mr. E. Hart (side view) with his guests drinking his health.

Transactions of Medical Societies.

THE CALCUTTA MEDICAL SOCIETY.

THE usual meeting of the Society for the month of June, took place at the Calcutta Medical College Hospital on the 14th instant, the President Dr. Koilash Chunder Bose in the chair.

In the absence of any specimens being brought forward, Dr. Banerjee read the notes of a case of an injury to the skull, in the case of a native boy, aged about 14 years. The accident took place at the Gouripore Jute Mills. A part of an iron wheel broke off and fell in an oblique direction shaving off a portion of the frontal bone. He was removed to the Imambara Hospital, and on examination, the piece of bone knocked out measured $3\frac{1}{2}$ inches by $2\frac{1}{2}$ inches. The scalp was hanging loosely over the forehead, there was profuse bleeding, the dura mater was not touched, and the pulsation of the vessels on the brain was quite distinct. The parts were carfully attended to, scalp replaced, ice bag applied, and he was given bromide of potassium internally. He vomited four times; the vomit contained blood, which was checked by sucking pieces of ice. The temperature rose to 99°F. He then kept well after this, no vomiting, no fever. He was discharged on the 12th March. During the process of healing a few small pieces of bone were removed from the upper and right side of the wound. The wound is now healed, but the pulsation is still distinct on examination.

The points of interest are, the providential dissection of a piece of bone without injury to the parts below, and the rapid recovery without any untoward symptoms. Dr. Banerjee said he wanted some suggestions for the devising of means for protecting the brain at the part where it was now covered only by its membranes and the scalp.

Dr. O'Connel Raye.—He said the case brought forward by Dr. Banerjee was indeed very interesting. He could understand an accident of that sort occurring from a sabre cut, but how the fly wheel of machinery, unless falling from a height, could be the cause of such an accident was very interesting. In this case a piece of the wheel fell from above, and must have come down in motion in an angular direction. He said, one of his relatives had met with a similar injury in the battle of Waterloo, and in this case also the dura mater was untouched. The means to protect the brain after injuries of this kind were a silver or vulcanite plate fastened by bands. A plate of silver in this case had been used with a wig. The only thing peculiar was that this gentlemen could not take the liquor he was accustomed to before the accident. He suffered in no other way.

Dr. Simpson.—He mentioned a case which came under his notice when in England. The patient was putting up some machinery when some part of it flew out and struck him on the forehead, and with the exception of being attended to at the time, and a few small pieces of bone being removed, nothing happened to him. His eye sight was not affected. I saw him a year after the accident and he was quite well.

The patient and the piece of bone which was knocked out were exhibited to those present, after which the President on behalf of the Society thanked Dr. Banerjee for the very interesting and rare case he had brought before them. He said that the wound had been no doubt attended to in accordance with recent surgery. Children made rapid recoveries from injuries to the head. He then mentioned a case which came under his notice in a child, a short while ago, of fracture of the frontal bone. There was pofuse bleeding from the nose, vomiting, the patient was unconscious, and there was an escape of arachnoid fluid. The child however made a rapid recovery. Regarding the means of protection in this case, two kinds of protectors had been suggested, to be made either of silver or vulcanite. He thought a vulcanite one would be more suitable for an Indian climate.

Dr. Bolye Chunder Sen then read a paper on Diabetes. He said:—I cannot throw any new light on the pathology or treatment of this disease, and my only excuse for bringing it before you is, because it is making such havoc amongst our best men, the flower of the country, and amongst its victions it has included many eminent Indian medical men. One whose name we are all familiar with, Dr. Rudra, who was loved and respected by all. It may be safely said that those attacked are amongst the intellectual. The Natives of Lower Bengal are more prone to it than others, just as Europeans in India are more prone to liver enlargement than any other race, and any enquiry as to why this is so must be very interesting and instructive. Is it because the Hindus of Lower Bengal have higher mental attainments? Diabetes is a disease of itself. It is often confounded with the term glycosuria, which can be induced as experimental glycosuria in animals by puncturing the floor of the fourth ventricle, as was demonstrated by Claude Bernard. It is known now, that any lesion of the nervous system causes temporary glycosuria.

Complete removal of the pancreas also induces it, whereas partial removal has no effect whatever. It is also brought about by a greater flow of blood to the liver, by carbonic acid, carbonic oxide, sulphuretted hydrogen, hydrogen disulphide strychnine, nitrate of amyl, turpentine, opium and morphia.

The theories of its causation are mostly uncertain. It is not known definitely by what course starchy and saccharine materials leave the liver, and the paths of nerve lesions in connection with the cause reaching the liver, is also not known.

As practical physicians, although we might learn much from theories, which, however, are more interesting to pathologists and statisticians,—we have to deal with disease practically. I learn from Dr. Simpson the Health Officer of our city, that this disease from the vital statistics Returns appears to be much on the increase, and a little while ago in conversation on this same subject with one of the senior members of the profession, I was told that it was just as prevalent in times gone by, but was not so readily detected. I fear this latter information is not correct, for how could a disease with marked symptoms as in this one escape notice.

The name diabetes is derived from the peculiar name the *Kobirajs* give it.

Dr. Senn then read out a number of tables which he had prepared, and which proved that the disease was most common amongst the Hindus, that it had been increasing by "leaps and bounds", that it was more common amongst males in India, than females. Although the vital statistics Returns shew a very great increase of the disease, and that this is true there is no doubt, yet these returns he said, I am sorry to say, are not absolutely correct—as in numerous cases where death takes place from concomitant diseases, are returned not as "diabetes" but from the complication which existed. These mistakes often occur at the burning ghat, but are not likely to occur in the case of non-Asiatics, or in those whose deaths are certified by a qualified medical man. And now that Bengalis are more educated than benefits them since the University was established in this city, we must not remain satisfied when we remember the men it has taken away, and those whom it attacks.

In examining the causes Dr. Senn said, that early marriages, he thought, played an important part in the production of the disease. The seeds of predisposition are sown at this time, and Dr. Carpenter agrees with this from what he says in his work on Physiology in connection with this subject, of the influence of impaired vitality on the organs of the body. Another cause is high education and cramming. Less then a century ago our young men never advanced further than the *Pathsala*, following the old style of morning and evening work with a rest in the middle of the day, and a short nap after breakfast; leading as it were an easy-going life. Since the importation of the language of our rulers, and the opening of schools and colleges with advanced studies, I am inclined to think, that the youths of the present day have no leisure. With the curriculum of study and attendance at school, our boys get from 14 to 16 hours work a day, which is too much for them. But they have to maintain this system to enable them to pass the very stiff examinations, which they overcome by cramining different keys, and Rowe and Webb's book. The next cause is to be looked for in the food. Two-thirds of the young men in the schools and colleges here, come from the mofussil, and the remaining third belong to the middle class, who are really poor. Milk does not enter into their diet, nor fish; *dal* they do not care for, so they have to be content with vegetables and rice. After a hard day's work, our young and middle-aged men indulge in wines and ardent spirits, which dulls their senses, it is rest, however, which they require. The keen competition now-a-days has much to do with the cause of the disease, and owing to the amount of mental work, our boys after their day's labour, are too exhausted to take physical exercise. They get dyspepsia, that curse of civilised life. With their hard work, it is not the quantity of food only which is necessary to maintain health, but quality also, to maintain a well balanced mind and brain, which they must have, or go from bad to worse. The physical giants of our younger days we see no more, the changes which education, the struggle for existence, and the want of enterprise, are striking and powerful causes, accounting for the poverty amongst our countrymen. An opinion expressed some time ago in the *New York Medical Record* supports my view of the matter, and Dr. Cornish says that diabetes is very frequent now amongst the better classes. Education and Western ideas being crammed into bodies insufficiently nourished, overcomes the nervous system, and so causes prostration. Dr. Norman Chevers holds almost the same opinion. In Mauritrius, the females are comparatively free, also here in India there are very few cases amongst the women, which is just the opposite to that which occurs amongst the women of England. Excessive sexual intercourse is another cause predisposing to the disease. Other causes in the from of diseases also predispose, as fevers, diptheria, tonsillitis, etc.

There are two well marked varieties of Diabetes, the acute form in the young, and chronic in old subjects, which latter may be averted. The means of diagnosing one from the other is very simple. In the first form the appetite is voracious, condition fair, muscular development good, pulse full. In the second variety the appetite is small with disgust for food, pulse weak, and muscles badly nourished. The prognosis in the two forms are.—In the acute it terminates rapidly, whereas in the chronic form it may last for years. In either case when albumen is found in the urine, the end is not far off.

Regarding preventive treatment Dr. Senn said—early marriages should be avoided. Our people would object to this great change in caste customs, but he hoped the day was not far distant when the Natives of India would be more enlightened, and marriages would be postponed till both parties were fully developed. He also said that high-pressure education should be avoided. Regarding diet, the food of young children in school, who are here from the surrounding country, should be better looked after, they should indulge

freely in milk, of which they get very little at present. Milk contains all the ingredients necessary for nutrition. Clarified butter, *ghee* and fish, should also form part of their diet, good meat is very wholesome. The want of means debars our young men from indulging in these articles of food. Meat-eaters are not prone to diabetes, but generally they suffer more now than they did before, and the reason of this is to be sought for in some other cause. Eggs and *dal*, are also very nutritious, but the usual food of the peoole is rice and vegetables, which should not be eaten largely. Out-door exercise should be had recourse to by our students, but this they are not inclined for. The use of alcohol should be strictly eschewed.

Regarding medicinal treatment, Dr. Senn enumerated the various drugs which have been recommended and used. Full doses of opium, jambull, codeia, bromide of arsenic, 1/45th to 1/23rd gr, oxygen, bromide of potassium, sodim and lithium. High altitudes to be avoided. Habits should be regular. Exercise should be enjoined and freedom from cares and the worry of business. Dr. Senn concluded his paper amidst much applause.

Dr. Joubert.—He said he had wished that this subject be brought before the Society for some time, and was very pleased to have been present to hear Dr. Senn read his very interesting paper. As the question was very important from many aspects; even in questions of life assurance, he suggested that the discussion be postponed till the next monthly meeting.

The President.—He thanked Dr. Senn, for his interesting paper, on behalf of those present, after which the meeting dispersed.

Current Medical Literature.

TREATMENT OF SUPPURATING BUBO.

Having within the past five years attended 704 cases of suppurating bubo, of which number fifty-four were under treatment at the Philadelphia Hospital, six hundred and three at the Jefferson College Hospital and forty-seven in my own private practice, I have had a somewhat extended opportunity to observe results, and have arrived at conclusions more or less differing from the usually received views of standard authorities.

I have observed that buboes due to chancroidal poison always suppurate; any attempt at abortive treatment is useless. The so called sympathetic bubo due to gonorrhœa undergoes resolution in nine cases out of ten. When due to the inflammatory and tuberculous causes the outlook for cure without suppuration is favorable. About one case in sixty is due to syphilis suppuratio, the patient being either broken in health, very anæmic, or of tuberculous diathesis.

Most authorities advise that the bubo be opened as soon as fluctuation, which indicates suppuration, is observed. Experience has taught me that this is a mistake; the operation should be postponed as long as possible.

If the bubo be not opened the patient will no doubt suffer more pain for a day or so, but he will, in most cases, be saved from an extensive dissection of the diseased glands. Suppuration takes place primarily around the gland, which soon becomes softened and broken down; by waiting a few days nature loosens the gland so that it is easily removed. Should the gland itself become disintegrated by the suppurative process it is readily and safely removed by means of the curette. If, however, the patient is early operated upon the gland will be found very adherent, owing to peri-adenitis, when dissection, to facilitate its removal, is not only difficult but is sometimes not free from danger. I have seen two cases in the out-wards of the Philadelphia Hospital, where the patients have been rendered hopeless invalids by the surgeon having torn the femoral vein while attempting to remove the adherent glands.

Nor is it necessary, as is generally taught, to remove every particle of the diseased gland when suppuration has taken place. Abundant experience has taught me that only the body of the gland should be cut away, leaving the trabecula, which is always very adherent and difficult to remove. The wound should be wiped with pure carbolic acid, after which it will soon present a healthy granulating surface, filling up in a short time.

The text books teach that in operating an incision should either be made parallel to the long axis of the body, or that the abscess should be opened parallel to Poupart's ligament. I believe that both these methods are wrong. The incision should be made through the entire length of the long axis of the swelling, without reference to the body; the pus should then be evacuated and the cavity washed out with a solution of 1 to 1,000 of bichloride of mercury. The upper flap resulting from the incision should then be grasped at each end with the hæmostatic forceps, and by means of a pair of curved scissors the flap should be cut away; the lower flap should be similarly treated; the whole of the skin overlying the abscess should be removed.

If an examination is made of the skin that has been removed, it will be found that its under surface is covered with a plastic lymph, together with anæmic granulation tissue, which is not only infiltrated by the microbes of suppuration, but in cases of specific origin with specific micro-organisms as well, making a double infection.

It is obviously impossible to disinfect these surfaces, hence, if the course laid down by the books be followed, in most cases a sinus will be the result, which will not only require a long time to heal, but will frequently necessitate the performance of one or more operations before a cure can be effected.

By operating by the open method not only is the infected skin removed, but the operator has the great advantage of being enabled to inspect the condition of affairs underneath, and thus to come to a definite conclusion as to the further treatment; in addition to this the wound can be thoroughly disinfected. Should the removal of any diseased gland be necessary the surgeon has a clear field in which to perform the dissection, and at the same time runs much less risk of wounding important structures in the neighbourhood.

Cases operated upon in the manner here described granulate in about three weeks, leaving a smooth, flat scar, scarcely per-

ceptible, while, on the other hand, the old method leaves a thick, indurated, uneven, discolored ridge of nodular tissue which the patient carries with him during the remainder of his life.

The after-treatment consists in washing the wound with a 1 to 1,000 solution of corrosive sublimate, drying it thoroughly, and then applying to the whole surface, by means of a bit of cotton, pure carbolic acid. The surface should then be dusted with iodoform and packed with the bichloride gauze, the dressing being daily changed until the wound is healed.

The method here described results in a speedy cure, and involves but one operation. Should it become necessary to remove the glands, the operator, by the process here advocated, can readily make his dissection with the entire surface in sight, and hence will run less risk of injuring important structures.

When the operation is completed it is not necessary to confine the patient to his bed, unless, indeed, there has been an extensive removal of the involved gland. Persons operated upon at the Jefferson Hospital are very rarely confined to the wards; they generally return to their occupations in a day or so, merely coming to the out-patient department to have their wounds dressed.—Orville Horwitz, M.D., in *N. Y. Med. Record.*

OPERATIVE PROCEDURES IN UTERINE DISPLACEMENTS.

Herrick (*American Journal of Obstetrics*, April, 1892) alludes to the similarity existing between the description of an operation recently proposed by Sänger for uterine displacements, and a description published by himself nearly two years ago, and intimates that Sänger's views are shaped by this publication. The writer says that good surgery must embrace good mechanics, and "either the architecture of the female pelvis is wrong or Alexander's operation must be bad mechanics."

The point is made that if nature had intended supporting the uterus by a ligament attached to its fundus, the round ligaments would have been inserted into the arterior abdominal wall, near the umbilicus, instead of into the loose tissue of the labia majora. The round ligament differs from the true supporting ligaments of the uterus in that it has no fixed point of attachment, and also that it contains muscular fibres, which permit it to elongate during pregnancy and to contract during involution. The writer believes that the shortening of these ligaments by operation has but a transient value, as the ligaments will soon afterward respond to their physiological office and elongate again. He advises a closer imitation of nature's manner of supporting the uterus, and prefers giving attention to the utero-sacral ligament. His plan of operating consists of suturing the cervix to the utero-sacral ligament with one or two silver wire sutures, introduced in such a way that the cervix is drawn upward and backward. This manœuvre causes the utero-sacral ligament to be folded upon itself, and union takes place between these folds and also to the wall of the cul-de-sac, which shortens the ligament about one-half, and makes a firm point of support for the cervix.

During the past two years the author has operated twenty-three times, using the two deep sutures in each case, and as far as can be known, each case is a success thus far.—*University Medical Magazine.*

THE VALUE OF A HISTORY IN THE DIAGNOSIS OF PLEURISY.

Dr. Alfred L. Loomis says that in the diagnosis of pleurisy, especially in obscure cases, one should not rely on the physical signs alone, but should take into careful consideration the history of the case. The history would be of great service in judging of the nature of the pleurisy, whether acute fibrinous, acute sero-fibrinous, or acute suppurative pleurisy; also in distingusihing between pleurisy and other conditions. For example, an acute suppurative pleurisy was ushered in by a chill, high temperature, and all the concomitants of an acute infectious disease, the same as in acute pneumonia. The physical signs would distinguish between these two. Acute plastic pleurisy gave quite a different history, which readily excluded pneumonia. The value of the history was shown in cases of pulmonary consolidation from pressure of a tumour or aneurism on a bronchus, resembling pleurisy, for the consolidation developed gradually. Cases difficult of diagnosis were those of rapid and large plastic exudation, which were accompanied by the physical signs of pulmonary consolidation. The absence of fremitus was the chief reliance. The history in such cases, which later gave pleuritic effusion, often pointed toward tuberculosis. Another class of cases which had given him a good deal of trouble in diagnosis were cases of chronic circumscribed empyema. The diagnosis was apt to pass until unexpectedly the patient expectorated pus; the source of the pus might be suspected, yet unless one happened to aspirate in just the right area he might fail to secure the fluid which would confirm his opinion that a localized collection of pus in the pleura had bursted into a bronchial tube.

As a rule, in the dry pleurisies, spoken of by Dr. Robinson as rheumatic or gouty, and which were quite frequent and belonged to the fibroid diathesis, the friction was extensive and readily determined the diagnosis; but when limited, considerable difficulty would be experienced. But there was a form of dry pleurisy occurring at the apex of the lung, accompanied for some time by a hacking cough, then hæmorrhage would take place; such cases, he believed, were apt to be tubercular, and there was an anatomical reason for infection of the pleura, lung, or bronchial glands, when any one of these was affected, for recent histological investigations at the laboratory of the University Medical College had shown direct lymphatic communication between these parts at the apex of the lungs.—*N. Y. Med. Record.*

CERTAIN ASPECTS OF GONORRHŒA IN WOMEN.

Dr. Noble (*American Journal of Obstetrics*) says an interesting phase of gonorrhœa in women is the invasion of the womb, fallopain tubes, ovaries and peritoneum. In the ure-

thra, the vulvo-vaginal glands, the vagina, the uterus and the fallopain tubes, the general facts are the same—the disease has little if any tendency to undergo a spontaneous cure. The rule is that a chronic catarrhal condition succeeds the acute inflammation—if the disease has not been chronic or "creeping" from the beginning—and that in some fold of membrane, crypt or follicle, enough of the specific poison remains to set up acute inflammation anew. The known chronicity of the disease, and its rebelliousnes to treatment in accessible regions, offer but little encouragement to expect a perfect cure in an inaccessible tube from which drainage is difficult, if not impossibe. Personally he knew of no case in which a gonorrhœal salpingitis had been perfectly cured. He believes that the rule of practice should be to remove all such uterine appendages when the health of the patient is compromised by their presence. There is reason to believe that gonorrhœal salpingitis invariably produces occlusion of the tube, except in those cases where the infection spreads quickly to the peritoneum and induces rapidly fatal peritonitis. In respect to the question as to removing both uterine appendages when only one is infected with gonorrhœa, he mentions the fact that when one uterine appendage has been removed for inflammation the disease is likely to attack the other tube subsequently. Therefore, in operating upon women the mothers of families, and who are approaching the menopause, it is certainly wise surgery to remove both uterine appendages, even though one is healthy. In young women desirous of bearing children, where only one tube is infected, it should be left to them to elect whether one or both tubes should be removed, as they alone must suffer the consequences of success or failure. Probably the percentage in which extension to the healthy side will occur can be materially reduced by appropriate treatment.—*Sheffield Medl. Journal.*

NAMES AND UNIFORMITY.

At the opening meeting of the London Medical Society, Mr. Jonathan Hutchinson gave an interesting address on "Names, Definitions and Classifications." The title has a rather scholastic and forbidding sound, but the lecture was a plea for greater clearness, simplicity, and uniformity in the use of the technical terms of medicine.

The speaker touched upon a very fruitful subject for discussion. The number of technical words in medicine is increasing every month; many old words are being dropped, and new meanings attached to old ones. All this makes the science of medicine more difficult to learn, simply because the tools of our study are not well selected. The recent remarkable out-put of medical dictionaries shows how much of a demand there is just to learn the language of medicine.

Mr. Hutchinson illustrates the importance of having clear definitions of medical terms by citing the words "erysipelas," "phagedena" and "diphtheria," and showing how widely the conception of the processes differs according to the writer's personal views or experience. Of course this only indicates, however, the fact that medical science has not yet crystallized into its final shape, and we can hardly expect clear definitions to come before clear ideas are evolved. On the subject of classification the speaker had not much to say, though here there is opportunity for immediate improvement. It is the custom of some writers to follow a clinical method, and this plan is largely adopted by the English, who apparently like to start up some novelty such as "catheter fever," "paroxysmal hurry," "anchored brain," or similar catch-words upon which to attach a train of symptoms. The French are even greater sinners in this respect, though it is their especial weakness to give a supposed discoverer's name to some odd symptom-complex.

It is generally admitted that the true basis for a permanent and scientific classification of disease must be pathological anatomy and pathology. With this foundation, clinical terms may be used to form an expressive and useful nosology. The use of a physician's name to indicate a disease is a practice much employed in the past, and still adhered to by the French, as we have stated, but it is not a good plan and it ought to be followed no longer. The practice was criticised many years ago by Dr. Oliver Wendell Holmes, who said: "If a doctor has the luck to find out a new malady, it is tied to his name like a tin-kettle to a dog's tail, and he goes clattering down the highway of fame to posterity with his æolo-attachment following at his heels." This is hardly just to the memories of such men as Bright and Graves, Friedreich, Pott, Ludwig and Sydenham; yet it expresses on the whole the truth of the matter. Mr. Hutchinson suggests that one should call a new disease by the name of the patient who was first found to have it. He himself has described "Penman's Prurigo" and "Mrs. Branford's Legs." Mr. Hutchinson is evidently, however, indulging in some obscure form of British humor, against which Mrs. Branford should in particular protest.

The speaker advocates the finding of new diseases, however, and thinks that the more the merrier, or, at least, the better for clinical science. Observers should sift out symptoms and get as many "types" as possible. This plan we can commend for a young science, and medicine is still young. Later the types should be harmonized and put together.

After all, questions of definitions, manner and classifications, are things which cannot be dealt with satisfactorily by individuals. To the great medical organizations belongs the task of unifying and simplifying the terms in use. In the course of time it is to be hoped that some international committee will undertake the work of bringing to pass our nosological ideals.—*N. Y. Medical Record.*

HEPATIC CIRRHOSIS IN A BOY OF NINE.

BROWN (*Archives of Pediatrics*, xl., p. 48) has reported the case of a boy, nine years and nine months old, of healthy German parentage, who was seized with pain in the head, back and abdomen; tympanites, epistaxis, and irregular elevation of temperature. Considerable improvement took place; but a short time later face, legs, and abdomen became swollen, and subsequently slight jauudice appeared for a few

days. The urine was high-colored and passed in small amount, but was not albuminous. The bowels were constipated. Cathartics and diuretics gave rise to copius stools and increased diuresis and vomiting, but the ascites became so threatening as to necessitate thoracentesis, which had to be repeated several times, considerable quantities of fluid being evacuated. Throughout, the appetite continued enormous. There was a continued febrile movement, with morning remissions. Later, intense jaundice developed, and amid the symptoms of intoxication the boy died. Though not strong, he had never previously been seriously ill. He had always been an inordinate eater, though his food had not been particularly rich or varied. He had grown rapidly and was five feet in height, although his parents were rather undersized. He had drank a little beer occasionally, but no alcohol in any other form. From early childhood he had suffered from bilious attacks, attended with diarrhœa and vomiting. At the post-mortem examination the body was found much emaciated. The abdomen was much distended, and presented on its surface veins of considerable size. The skin was deeply jaundiced. The abdominal cavity contained five and a half quarters of clear yellow serum. The liver was of greenish-yellow color and reduced to about half of its normal size; it was rough and nodular and cut with considerable resistance. The spleen was enlarged and deeply congested. The mucous membrane of the stomach was somewhat thickened. The kidneys were yellowish in color, congested, and rather larger than normal.—*Amer. Jour. Medl. Sciences.*

PERSONAL RECOLLECTIONS OF DELIRIUM.

In a paper on "Sleep, Dreams and Delirium" *(Glasgow Med. Journal*, October 8), Dr. Joseph Coats points out certain differences between dreams and delirium. In dreaming, the activity of the nervous centres, occurring during sleep produces little or no impression upon the consciousness, but delirium, occurring when a person is awake, often produces a marked retention of activity in the centres of consciousness. The consciousness may be so dulled that the phenomenon may approach dreaming, but this he believes to be exceptional. In delirium, what passes through the mind may be retained there and believed to have actually occurred; in dreaming, this practically does not happen. The author quotes his own experience when attacked with delirium, and gives at length a letter recently from Dr. W. T. Gairdner, describing an account of his experienne in the delirium of typhus fever.

While still a medical student Dr. Gairdner had a severe attack of typhus fever, being for some time delirious, then comatose. At the time, he was about to write a graduation thesis on the subject of "Death," and this subject was very prominent during the delirium. Although fully aware that he was soon likely to die, it did not alarm him at all. He remembers a feeling of unrest, dissatisfaction and apparent anxiety about something that had got to be done and could not. A little later he became convinced that he was dead, but this fact did not in the least distress or horrify him; he had, on the contrary, a curiosity to witness his own autopsy, and he retains a most vivid impression of standing by his own post-mortem examination in the theatre of the hospital with much interest in the question whether ulceration of Peyer's patches would be found in the intestines or not. He also retained during his convalescence a vivid impression of having seen his remains recently buried. After the coma which followed this delirum had passed, a delirium of a more quiet form came on in which the sense of distressing unrest had entirely disappeared. The last impression left upon his mind before recovering normal consciousness was a vision of the resurrection. As convalescence progressed it seemed to him that he had acquired a new faculty—that of dreaming at will. He could for sometime together give way to these visions in perfect comfort and with ecstatic feelings of enjoyment. The strictly intellectual power was being recovered in the very midst of these voluntary visions, so that he could either shut his eyes and dream or open them and think as he pleased. The thesis which he had begun to think over but had not written, before his sickness, arranged itself in his mind during his convalescence and was subsequently written out upon the plan which he had devised and completed in moments alternating with his visions of Elysium. He concludes by saying that this thesis could not have been very bad after all, since it won him a gold medal.—*Montreal Med. Journal,*

AMERICA AS A FIELD FOR ENGLISH PHYSICIANS.

A correspondent of the *Lancet* gives an interesting and objective account of the chances for success which an Englishman would have in this country. After stating some of the legal requirements for starting in practice, he says—

"In Chicago, which is probably the most suitable opening for an Englishman, the diploma is simply produced before the State Board of Health. Chicago is increasing in population more rapidly than any other city in the States. It now stands second. The States present a very wide field, and it would be no easy matter to predict success or failure in a given instance. A good deal of local prejudice exists against foreigners. They prefer the home-made article, even if inferior. The sanitary laws are enforced very strictly at New York, specially the notification of infectious diseases. The profession, as almost everywhere, is overstocked; but it will be said, 'there is always room at the top.' A polyglot dictionary would not be a bad investment to start with. I am not joking. I have had Greeks, Poles, Russians, Armenians, Hungarians, Chinese, Italians, and Dutch patients. Some speak a little English, but the greater part of the conversation was carried on by signs or through interpreters who knew little more than the patients themselves. The fees depend on the class of the *clientele*. Working men pay a dollar per visit, and the same for advice and prescription; small shopkeepers, etc., two dollars, and so on upward. Midwifery from ten to twenty dollars and upward, according to class. Medical men never do their own dispensing unless in the back-woods. The chemists

in Pennsylvania are well qualified, many being Doctors of Pharmacy. All government appointments, such as coroner, medical officer of health, etc., are open to citizens only, but a foreigner may, of course, act as surgeon to Odd-Fellows, Foresters, or any private clubs. Practices are rarely bought or sold as in England. Beware of them as an investment. A practitioner usually starts on his own account, 'hangs out his sign,' as the local phraselogy goes, or he may occasionally obtain an assistancy to an older man. Assistantships are difficult to secure, because local men 'know the ropes' better and are accordingly more sought after. A surgeon in the army or navy becomes *ipso facto* a citizen. I fear my communication grows lengthy, so I shall conclude by saying that the prospects of most men with British qualifications would probably be better in a British colony, although I am personally acquainted with four such in New York City (two being hospital surgeons) who have done well; but I am convinced they would have done equally well, if not better, in any English or Australian town presenting sufficient scope."

If the esteemed correspondent were writing about Irishmen or Germans, he would have a different story to tell. At any rate, Gentlemen from these countries come here in great numbers and appear to thrive. Most Americans welcome Englishmen heartily, particularly if they are willing to adapt themselves to the country.—*N. Y. Med. Record.*

THE RELATION BETWEEN TONSILLAR AND PULMONARRY DISEASE.

It is generally admitted that acute tonsillitis belongs to the category of contagious diseases. The work of Bouchard and Kannenberg upon the nephritis and albuminuria in acute tonsillar affections, supplemented by that of Landouzy and many other contemporaneous writers, have settled this question beyond a doubt. The throat affection may be regarded as a general disease with a characteristic local lesion, and is therefore attended by a long train of sequelæ. Much attention has lately been directed to these as occuring in the lungs and pleuræ. Tissier and Coursier have lately reported (*Annal de Méd.*, 1892, p. 269) a case of pneumococcus infection in which the first manifestation appeared in the tonsils. The title of their paper was "The Prodromal Angina of Pneumonia," and they regarded the initial follicular tonsillitis in their patient as a sort of auto-infection. Its sudden beginning, the intensity of the general symptoms, the albuminuria, the short duration of the disease and the general febrile symptoms, all bespoke the pneumococcus nature of the tonsillar condition. The pneumonia was to be looked upon as a sequel of the throat lesion.

The role of the pneumococcus in the causation of disease is a complex one. We have reason to believe that it may produce a spinal meningitis as well as an inflammation of the lungs. The conditions which determine the production of the one or other of these diseases are at present not well understood. At a recent meeting of the Italian Congress for Internal Medicine, Riva ascribed to this germ the power of producing rheumatic outbreaks. (See *Epitome*, February, 1893.) He goes so far as to classify both pleurisy and pneumonia under the head of rheumatismal affections. To this group tonsillitis may in any instance be added. If this view be correct we find therein an explanation for many of the pleural and pulmonary complications and sequelæ of tonsillar disease. They are all three produced by a common cause. They all have many features in common, modified by the local environment in each individual case.

Almost all varieties of acute tonsillar affections are liable to these complications. We may have a true phlegmonous condition localized in the tonsil or gaining access to the cellular tissue in the vicinity and extending even to the mediastinum; and this may happen without there being any indications either external or internal as to the starting-point of the suppurative process. Richardère reports a case of non-suppurative tonsillitis with intense fever and grave prostration. In the course of a few days the patient complained of a pain in the side, with dyspnœa, and it was discovered that there was an effusion in the left pleural cavity. Soon there appeared a puffiness and redness over the corresponding pectoral region, and a large abscess was found involving the cellular tissue and muscles of the affected area. The patient died suddenly. The autopsy revealed no abscess in or around the tonsils, though these were considerably enlarged. Nor was there any suppuration discovered in the retro-pharyngeal cellular tissue or in the mediastinal space. The left pleural cavity contained about two litres of pus. The pectoral region showed a general purulent infiltration, but the suppurative myositis, while adjoining the empyema, did not connect with it.

The local symptoms of acute tonsillitis leading to pleuro-pulmonary complications are generally of slight intensity. Rarely do they suggest a grave throat affection. More often the throat is but moderately reddened and swollen. The tonsils are slightly enlarged; at times, scarcely at all. In most cases there is no increase of secretion. The pain, on swallowing, is, however, generally considerable. Glandular enlargement is, as a rule, wanting.

Pleurisy is undoubtedly the most frequent complication. It is generally a purulent process, and the pus has been found to contain numerous streptococci. Pneumonia is less common. Another grave complication is acute pulmonary congestion (Rendu). This may be accompanied by signs of paralysis of the phrenic and pneumogastric nerves.

The prognosis in all these cases is bad. The cases of pleurisy generally die. Rendu reports a case of pulmonary congestion cured, but with a long and tedious convalescence, presenting moreover a general muscular atrophy such as occurs after many of the acute infectious diseases.

The channel through which the poison gains access to the chest is not always clear. It would be easy to admit that the pleuro-pulmonary lesions are the result of a direct extension of the suppurative process from the tonsil to the cellular tissue of the neck, thence to the mediastinum, and finally to the

pleura and the lung. But this mode of explanation is by no means always the correct one. Often the local chest lesions develop at a distance, and must be looked upon as the true result—systemic infection, analogous to the meningitis and otitis of an ordinary pneumonia.—*Epitome of Medicine.*

DR. ERNEST FINGER'S CONCLUSION REGARDING URETHRAL STRICTURE.

We find the following intelligent resume in Dr. Elsworth S. Smith's Vienna letter to the *Medical Fortnigtly* regarding Dr. Ernest Finger:

He has many clear and distinctive ideas on the subject of chronic posterior urethritis and stricture, and has resolved these rather extensive subjects into a few short and lucid propositions. Especially with regard to stricture are his views admirable. He holds that the calibre of the urethral canal (or rather its dilatability) increases steadily from the meatus to the pars prostatica; and from this anatomicnl fact he draws the following conclusions:

1. The diagnosis of the limitation of this dilatability must be made with an instrument which can efficiently test its limits at every point in the pars anterior.

2. Neither the bulbous nor the ordinary sound will answer for this purpose, as a considerable interference with this dilatability may elude the latter and a slight amount the former, because it is impossible to introduce an instrumant at one end of a cone (represented in this case by the meatus) which will completely fill the portions of larger diameters towards the base (the deep urethra, or pars prostatica). Meatotomy will not assist matters, as in order to be effective, a section would actually have to be made along the entire canal to meet the requirements of the case.

3. The conical sound is, for the same reason, not effectual in the dilatation of stricture of large calibre, for the small end of a cone will not admit an instrument which will dilate completely its other and larger extremity.

4. For the accurate diagnosis, therefore, of a stricture, especially of large calibre, an instrument is required which can be enlarged, after its entrance through the meatus, to a size sufficient to thoroughly test the dilatability of every portion of the canal; such an instrument is the urethrometer of Otis.

5. For the dilatation of all strictures situated at sites whose calibres should be greater than that of the meatus conical sounds will answer up to the size of the meatus, after which Oberlander's dilator, an instrument very similar to the dilating portion of Otis urethrotome is also capable of effecting a cure. After its introduction its calibre can be gradually increased until it reaches what should be the normal calibre at that point.

In proceeding in this matter in the treatment of urethral narrowings, he does not find it necessary to make meatotomies, and he resorts to the use of the urethrotome in only two classes of cases, viz., in the recurring variety, and in those essentially irritable. Even the latter he is often able to handle successfully without the knife by means of cocaine. Of course, these propositions are still young, and yet require the test of time. Two cases treated by Dr. Finger according to the methods described above, and dismissed as cured, two years ago, have since that time, at stated and careful examinations, showed no evidence of relapse. Let us hope that these cures will be permanent, and that many others will be added to the list to confirm Dr. Finger's theory "that a strictured part once returned completely and thoroughly to its normal calibre will never again contract," a reward the doctor deserves for the clear presentation of the subject his theory furnishes.

He also advises the testing of the dilatability of the canal in clinical urethritis, that narrowings may be detected early, when the exudation is still unorganized and absorption all the more easy and thorough of accomplishment.

AN EXPERIMENT IN CASTRATION.

An interesting experiment has suddenly come to grief at the Norristown Insane Asylum, Pa. Some of the medical staff became much impressed with the value of castrating women as a therapeutic measure in insanity. The consent of the trustees being secured, a surgical ward was established, and fifty patients selected as being cases likely to be benefited by the operation. The process of oöphorectomy was begun and went on swimmingly until the fifth case was reached. The fifth patient died, and a pause in the surgical work ensued. The Lunacy Committee of the State Board of Charities took up the matter, and an investigation was begun and a report made. This report condemns the operation of oöphorectomy except in cases of gross disease which absolutely demand extirpation. The subject of the personal rights of the insane in the matter was dealt with by a legal member of the committee, who offered this official opinion.

"I am of opinion that the operation of oöphorectomy upon insane women, as recently practiced and as proposed to be practiced in one of our State hospitals for the insane, unless necessary to save life, is not only illegal, but, in view of its experimental character, it is brutal and inhuman, and not excusable on any resonable ground. To quote a learned medical opinion: 'To operate on organs not diseased for the relief of undefinable symptoms, hysterical symptoms and epileptic symptoms, is unwarranted.' A lunatic cannot give a legal consent to the performance of an experimental operation, nor can her relatives legally give such a consent in her behalf; and therefore a surgeon practicing oöphorectomy upon an insane woman, unless to save life, takes a great risk of a criminal prosecution.

"It is regarded by the best medical authorities as a useless and improper expedient for the cure or relief of insanity, and the operation of oöphorectomy in a public hospital upon indigent insane women must be regarded as largely experimental, and for that reason is bound to reflect upon hospital authorities now boasting of modern humane methods."—*N. Y. Med. Record.*

PATHOLOGY AS A BRANCH OF NATURAL SCIENCE.

Prof. Virchow's brilliant Croonian Lecture before the Royal Society, deals with the development of pathology as a branch of natural science. In sketching this development he has been led to give a cursory sketch of the whole history of medical science in modern times, and has thus covered an amount of ground to which it is difficult to do justice in a hasty appreciation.

The goal to which his whole argument tends is, however, clear enough—it is the unity of science. Pathology, his own chosen field is no longer to be regarded as a department of medicine, nor valued only for its practical service to the art of healing. It becomes an important tributory to the master science of biology, which again, it must be admitted, has an increasing importance and influence on the progress of natural science generally.

Very gracefully, considering the occasion, and without any sacrifice of historical truth, Prof. Virchow has delineated this progress by pointing out the great landmarks of scientific discovery raised by German and English investigators, whose close union and mutual reaction during 300 years have so largely contributed to the great work of unification.

Among the great names of the German race come Vesalius the reformer of anatomy, and Paracelsus, a personality difficult far than Germans adequately to appreciate, but whose audacious revolt against dogmatic authority was a signal service (some may think his chief service) to the progress of medicine. Nevertheless, says Prof. Virchow, he introduced into medical thought the first notion of a fundamental principal of life, tainted though this notion was with mysticism.

In tracing the history of the conception of vitality, no one will be surprised at the importance attached to Harvey's fundamental discovery as the turning-point between the old and the new medicine. But few will be prepared for the important place given to Francis Glisson as the real originator of the notion of "irritability," which in the hands of Haller, played so large a part in the evolution of modern physiology. Glisson's position as a physiologist has never been so clearly recognized by his own countrymen as it is in this generous appreciation.

We see, as we approach the end of Prof. Virchow's masterly historical analysis, one reason why Glisson's ideas have interested him so much. The conception of the "elementary life of the several parts of the body, which he regards as originating with the English anatomist, led, when the cellular structure of organized bodies was disovered, to the recognition of the elementary life of the cell. Ultimately, Virchow was able to formulate his celebrated dictum (modelled on Harvey's *omne vivum ex ovo*) of "*omnis cellula.*" From this to the location of diseased process in the cell was a short and inevitable step. Thus we arrive at the cellular pathology.

In a few lines at the end of the lecture is contained the essence of Virchow's pathological doctrines which have influenced the science of medicine more profoundly than those of any other living man.

It is not our place here to praise the cellular pathology, still less to criticise it. It will always have its place in the history of medicine. Whatever transformations medical science may undergo in the time to come, this celebrated system will inevitably remain as a link in the chain which connects the science of the past with the science of the future.—*British Med. Journal.*

THERAPEUTIC PROGRESS IN A YEAR.

It is sometimes better to view things in the aggregate, that is *en masse*, rather than in detail; the effect is so much the more impressive. So it might seem with regard to the therapeutic summary of a year's work or progress. Viewed in detail, it does seem as if the contributions to the armamentarium of the practitioner made by writers in medical journals, medical books, and in published medical lectures, should make a magnificent aggregate, in the course of a year, of therapeutic hints and suggestions, and they certainly do so. One of our foreign contemporaries presents the following summary of the therapeutic work of the past year, but it distinctly fails to recognize a large mass of important work done in detail with the later therapeutic agents, and naturally falls short in the matter of completeness as an evidence of the actual work performed in this and other countries:

"Arsenite of copper in anæmia, the use of atropine as a hæmostatic, and the value of camphorated oil in cases of collapse, have received attention. The administration of oxygen in various acute respiratory affections led to numerous communications; it was employed together with strychnine in pneumonia, alone in a severe case of broncho-pneumonia following influenza, and it was also recommended in asthma and in convalescence—massage, electricity and oxygen being regarded as substitutes for change, exercise, and sea-air. Rectal antiseptic injections in epidemic influenza, and in advanced phthisis with large cavities, have once more received commendation. Phthisis has also been treated with creasote, guaiacol, camphoric acid, and cantharidinates, but increased experience with the last named has given rise to some anxiety, owing to the frequency of consecutive albuminuria. In the treatment of vomiting, hydrochloric acid and strontium bromide have been recommended; chlorobrom has been used for sea-sickness, and solanine for painful disorders of the stomach; orexin hydrochlorate has somewhat gained in favor as a stomachic and aid to digestion; salicylate of bismuth has been used in infantile diarrhœa, and lactic acid in many other forms of diarrhœa, having given good results even in phthisis. Much has been written of the value of glycerine in the treatment of hepatic colic, for which, when due to gall-stones, large doses of olive oil have also been vaunted as an anthelmintic, but its range of application appears to be very restricted.—*College and Clinical Record.*

THE TREATMENT OF GANGRENOUS INTESTINE.

In a certain proportion of cases of strangulated hernia the bowel is found in a gangrenous condition, and the treatment of such cases in the past has practically been limited to relieving the constriction and to the creation of an artificial anus. The mortality under these circumstances is very considerable, in fact, the discovery of gangrenous intestine has hitherto been looked upon as an indication of the hopeless nature of the case.

Judging from a paper read by Dr. Kendal Franks before the London Medical and Chirugical Society, these cases are not as hopeless as statistics would lead one to infer. He urges with some show of reason, basing his conclusions on a tolerably extensive array of statistics, that resection of the gangrenous gut with immediate suture affords the patient a much better chance of recovery. Nor was this conclusion seriously questioned by the experienced surgeons who had assembled to hear what the author had to say on behalf of a procedure that certainly strikes one as severe, considering the usually very depressed condition of such patients. The discussion turned mainly on the question as to whether the operation should be completed on the site of the original wound made for the relief of the femoral or inguinal hernia, or whether, after the preliminary palliative measure, it should be performed through a median abdominal incision made for the express purpose. Opinion on the whole was in favor of the resort to abdominal incision, and this is probably the view that will commend itself to most unprejudiced surgeons.

It is evident that the thoroughness of the examination of the gut and the freedom of manipulation could never be the same through such a small aperture as that afforded by the inguinal or the crural canal apertures, moreover, which cannot be safely enlarged. By this procedure the mortality has been reduced from something like 95 to about 56 per cent., a brilliant enough achievement considering the very unfavorable circumstances under which it is necessarily undertaken. One point that came out very clearly in the discussion was the impunity with which relatively considerable lengths of gut can be removed. One case was mentioned in which over a yard had been removed, and this without interfering with the recovery of the patient. It is indeed all important to remove every inch of damaged tissue, otherwise no suture, however perfect, can be relied upon to hold. A very large proportion of the failures after enterectomy are attributable to non-compliance with this salutary rule, and it cannot be too strongly impressed on surgeons that the kind of suture is of far less importance than the fact of its being applied to healthy tissue. There must, of course, always be cases which come under treatment at such a late period that nothing can be done. These "too late" cases are the operator's horror, for they weigh down the statistics with an unduly large proportion of fatalities, although death has really nothing to do with the operation *per se*. Dr. Franks has called attention to a means of rescuing a certain proportion of patients otherwise condemned to inevitable death, and he has succeeded in divesting gangrenous intestine of half its terror.—*Med. Press and Circular.*

INTRA-NASAL MEDICATION FOR EFFECTS ON THE BRAIN.

Dr. J. Leonard Corning, of New York (*Med. Record*), contributes an interesting article upon this subject. He thinks that remedies applied to the mucous membrane of the nose will be speedily absorbed and will produce their characteristic effects very rapidly, particularly if the jugular veins be compressed at the same time. It is probable that absorption of the remedy takes place by way of the vessels that penetrate the lamina cribosa, and that it reaches the brain in a much more concentrated form than when given hypodermically and mixed with a large amount of blood.

His method of procedure is as follows: After thoroughly cleansing the mucous membrane, the medicament is introduced in solution through the nostrils by means of a dropper or atomizer, the patient lying upon his back.

After the lapse of ten or fifteen minutes the second step of the operation may be proceeded with. This consists in restricting the lumen of the internal jugular vein by means of small dry cups over the course of the vessels, one on each side of the neck on a level with the thyroid cartilage.

The cups, which are joined together in front by an adjustable steel band, are about two inches long and half an inch wide; they are made of metal—silver or steel—and are held in place by an elastic strap which passes around the neck and is secured in place by means of a buckle. The air in the cups is then rapidly exhausted by means of an air-pump and vacuum chamber, which exert themselves upon the interior of cups through the intermediation of small, non-compressible India-rubber tubes.

Compression may be maintained for twenty minutes or more if necessary.

The writer details several cases, showing effects of this treatment. In one, the patient had suffered severely from headache, probably due to nervous syphilis. Under large doses of iodide of potash he improved very greatly, and after several months discontinued his visits. After a time he returned complaining of an unusually severe paroxysm. Morphine 1/8th and atropine 1/100th grain was injected into the nostrils, and ten minutes later, there being no diminution of the pain, both jugular veins were compressed in the manner above detailed with the result of entirely relieving the pain. In all the other cases treated, relief was prompt and well-marked.

This method promises to be of great value, and we hope to hear more of it.

A HEAVY BRIDAL COUPLE.—There was recently married at one of the New York dime museums a couple whose united weight is said to be 1,179 pounds; the bridegroom weighing 607 pounds, and the fair bride 572 pounds.

VITAL STATISTICS.

STATIONS.	Population,	Period.	DEATHS.								Ratio of deaths per mille.	BIRTHS.	Ratio of births per mille.
			Cholera.	Small-Pox.	Measles.	Fevers.	Bowel Com-plaints.	Injuries and acci-dents.	Other Causes.	Total.			
		Week ending											
Calcutta ...	681,560	20th May 1893.	25	1	...	139	51	...	146	362	27·7	...	...
,, ...	,,	27th ,, ,,	23	...	...	127	29	...	139	318	24·3	...	...
,, ...	...	3rd June.	22	2	...	107	51	...	152	334	25·5	...	...
,,		10th ,, ,,	12	1	...	141	30	...	140	324	24·8	...	...
,,		,, ,,			...			...					
Bombay ...	821,764	2nd May 1893.	5	9	...	214	31	...	293	552	34·92	...	...
,, ...	,,	9th ,, ,,	10	14	...	212	18	...	303	557	35·24	...	...
,, ...	,,	16th ,, ,,	8	11	...	190	35	...	292	536	33·91	...	...
,, ...	,,	23rd ,, ,,	1	5	...	204	26	...	281	517	32·71	...	...
,, ...		30th ,, ,,	4	9	...	168	27	...	262	470	29·74	...	...
Madras ...	452,518	12th May 1893.	...	...	33	132	33	...	151	349	40·1	313	35·9
,, ...	,,	19th ,, ,,	...	2	35	118	47	...	155	357	41·0	313	35·9
,,	,,	26th ,, ,,	...	...	25	122	43	...	136	326	37·4	262	30·1
,,	,,	2nd June ,,	...	1	31	124	44	...	142	342	39·3	304	34·9
Delhi ...	...	April 1893.	...	...	...	189	34	7	219	449	...	451	...
,,		May 1893.	1	...	...	234	42	12	255	524	...	405	...
,,													
Rangoon ...	...	19th May 1893.	...	2	1	25	12	2	68	110	31·72	...	...
,, ...	...	26th ,, ,,	1	2		29	7	...	46	85	24·51	...	...
,, ...	...	2nd June 1893.	...	2	...	38	6	1	79	126	36·33	...	...
,, ...		,, ,,	...	...	...	34	7	...	79	120	34·604	...	...
Naini Tal Dist.	362,248	March. ,,	...	...	6	763	43	15	17	844	23·3	949	2·62
Moradabad ,,	1,179,398	,, ,,	1	28	...	2484	102	26	370	3011	2·55	5009	4·25
Bareilley ,,	1,040,691	,, ,,	...	54	...	1702	110	24	136	2026	1·95	4236	4·07
Saharanpore ,,	1,001,280	,, ,,	...	1	...	1677	75	22	27	1802	1·79	3479	3·47
Meerut ,,	1,391,458	,, ,,	...	...	...	2151	17	27	27	2222	1·60	4163	2·99
Agra ,,	1,003.796	,, ,,	...	1	...	1157	88	32	305	1583	1·57	2391	2·38
Sitapur ,,	1,075,413	,, ,,	...	8	...	1521	6	26	121	1682	1·56	3682	3·42
Cawnpore ,,	1,209,695	,, ,,	...	...	...	1891	15	38	563	2507	2·07	3507	2·90
Allahabad ,,	1,548,737	,, ,,	6	9	...	2665	14	33	380	3107	2·01	4099	2·65
Fyzabad ,,	1,216,959	,, ,,	4	2	...	1177	27	35	273	1518	1·24	3152	2·59
Goruckpore ,,	2,994,057	,, ,,	...	34	...	1889	214	49	1489	3675	1·23	8619	2·88
Benares ,,	921,943	,, ,,	23	11	...	1347	89	26	257	1753	1·90	2795	3·03

Medical News and Comments.

THE ARMY MEDICAL SERVICE.

On the 15th of May last, a deputation from the British Medical Association and the Royal Colleges of Physicians and Surgeons of Ireland waited on the Secretary for War to suggest amendments in the conditions of service of the Army Medical Department. Among the deputation were Dr. Cameron, M. P., Dr. Farquharson, M. P., Dr. Macgregor, M. P., Mr. Ernest Hart. Bgd.-Surg. J. F. Beattie, Dr. Bridgwater, Bgde.-Surg. J. F. Fishbourne, Surg.-Genl. G. L. Hinde, C. B., Bgde.-Surg. Lt.-Col. M'Leod, Surg.-Gen. Sir J. W. Moore (vice-president of the College of Physicians of Ireland), Mr. C. N. Macnamara, Bgd.-Surg. F. B. Staples, Surg.-Major Gen. Thomson, and Dr. Carte and Prof. Houston (from the Royal College of Surgeons of Ireland).

Mr. Campbell-Bannerman was accompanied by Lord Sandhurst, Sir Ralf Thompson, Sir Redvers Buller, Mr. Woodall, M. P., Sir William Mackinnon; and Capt. Sinclair, M.P., and Mr. Fleetwood Wilson, C. B., private secretaries.

Dr. Cameron introduced the deputation and Mr. Ernest Hart directed attention to the main points that it was desired to lay before the Secretary for War. A carefully drawn-up memorandum of these had been prepared, and it was urged, among other things, that the Army Medical Staff and Medical Staff Corps should be formed into a consolidated corps, on lines similar to the Royal Engineers, the Army Service Corps, and Ordnance Store Corps, but with limited army command as at present; that foreign service should be restored to the old rates—namely, five years in India and the healthy Colonies, and three years in unhealthy Colonies, according to the recommendation of the Camperdown Commission, which was practically acceded to by Mr. Stanhope over a year ago; that some revision of the new titles was required; that "three years in a rank" before being permitted to retire was too long; that the extension of service for Surgeon-Major-Generals bore most hardly on the department, &c. The strongest appeal was made against the six years' tour in India. Mr. Hart was proceeding to comment upon the proposed revision of the new titles, when Mr. Campbell-Bannerman asked what he looked upon as the advantages to the officers of the corps derivable from the revised titles.

Mr. Hart replied that they would give the officers rank, and relieve them from a great number of annoyances to which they were subject under the compound titles in having no home, no solidity as a body, and no status.

Other gentlemen having spoken, including Dr. Moore, Dr. Carte, Prof. Houston. Dr. Hinde, Dr. Fishbourne, Dr. Macnamara, Dr. Staples, and Dr. Thomson.

Mr. Campbell-Bannerman, in reply, expressed his sense of the weight of the representations made to him, and promised to give them careful consideration. With regard to the proposal to consolidate all the branches of the service into a corps, that had been considered before, and he had no strong opinion one way or another on the subject. He had been amused to find that there was some disposition to object to the ample titles with which the officers were at present furnished; but he rather thought the general opinion of the country would concur. Whether, however, the titles could be simplified, as proposed, was a matter on which he could hardly give an off-hand opinion at that moment. The circumstances of the service were, of course, peculiar in themselves, and a comparison with other branches of the Service might often be entirely misleading. At all events, those for whom he spoke would be most anxious to do any thing they could which would meet the sentiments, as well as the necessities and the efficiency, of the officers of the service. He could not say more than that, because many things had to be taken into consideration before a decision could be come to. They wanted to do nothing but justice to the medical staff, for they knew how excellent and valuable their services were, and everything that had been said should receive the most real and genuine consideration.

The deputation afterwards waited on Lord Kimberley, Secretary for India, to present to him certain points with regard to the medical service in that part of the empire.

His Lordship, in reply, referring to the question of the extended tour of foreign service, said that, if the War Office were to determine that the rule should be changed, he did not think it would meet with any serious opposition from the Indian Government. As to the request that the medical officers should, as far as possible, return to service with the Army Corps that they knew, and the part of India which they had experience of, in the event of four Army Corps being formed, he said that it had not yet been finally determined what should be done in that direction; but the point urged would be borne in mind and considered in connection with the whole of the arrangements. With regard to the request that a change should be made in the rank pay, when the change was made with regard to the rank, in 1879 Lord Grenville, who was then Secretary for State, informed the War Office that he positively declined to admit a charge upon the Indian revenue for higher pay or increased expenditure which might arise from the publication of the warrant. The ground taken was that the whole matter had been considered in the consolidated pay, which the Indian Government considered to be sufficient for the medical officers. The change of rank was a thing which that office had nothing to do with, or the Government of India, and they declined, because the Secretary of State for War chose to make a change, to increase their liabilities. Upon that ground he stood now. They entirely objected to any expenses by reason of warrants which were issued by the War Office without their consent and without their concurrence. They gave due and ample notice that they would not be bound by that warrant; they had stood upon it ever since, and he was not prepared to depart from that position now, a position which was rendered all the more necessary by reason of their present financial position. He was about to go down to the House of Lords to hear a long discussion upon a subject brought before the House by Lord Northbrook, and he object-

ed that the Indian Government should have put upon it serious and unjustifiable expense by the War Office, the Treasury, and the House of Commons in directions which they did not approve, and certainly such a time was an exceedingly unfavourable one for the advancement of such arguments by the deputation. Naturally they wished the interests of the service which they represented to be attended to as much as possible, and they were therefore quite right to bring the matter before him: but the Government of India had determined what the consolidated pay should be and they did not feel themselves bound by the warrant. It was possible that they might show that there ought to be a revision of the pay in India for the medical service, but that question must be considered on its merits, and they declined absolutely to be bound to pay more money because of changes which the War Office thought proper to make. On the question of the depreciation of the rupee he entirely sympathised with them and admitted that they had a grievance. The consideration of that point could not be long postponed and of course the medical officers would receive consideration along with others in any rearrangement that might be made. As to the station hospitals and other points which had been brought before him, he could make no other promise than that they should be carefully considered by himself and his colleagues. He was not in the smallest degree insensible to the great and admirable services of the medical officers of the staff in India, or to the necessity of their due and proper remuneration, and thought that no officers in the service deserved more consideration than they did. He promised that their representations should receive careful consideration.

LADY NURSES.—The following decisions have been arrived at to meet the cases of Lady Nurses of the Indian Nursing Service who may resign the service before the expiry of their tenure of appointment, or whose services may be dispensed with by order of the Government of India, and will be embodied in Army Regulations, India, Vol. VI. His Excellency the Commander-in-Chief suggested that a lady nurse desirous of resigning the service after the expiration of six months' notice under paragraph 1814, Army Regulations, India, Volume VI, should be required to specify a forward date from which the period of six months' notice should commence to run and was of opinion that such date should be not less than 21 days from the date of submission of her application to the District Medical authority. It is thought however that it will be better to lay down one rule which shall apply alike to Lady Nurses resigning and to those whose services are dispensed with by Government, and in this view the Government of India consider that the six months' notice required should count from the date of the receipt of such notice by the Government of India, or by the Lady Nurses who may desire to resign the Indian nursing service without giving six months notice, I am to State that the Government of India agree with His Excellency in thinking that the forward date should be 30 days from the date of submission of such application to District Head Quarters. Sanction has also been accorded to the adoption of the procedure suggested in regard to the method and time of refund of the £30 or £20, which Lady Nurses entertained in England are required to pay on retirement from the Indian Nursing Service before completion of five years' service. To effect the refund it will be necessary for the Lady Nurse to receive a "receivable order" from the Controller of Military Accounts of the circle in which she may be serving. The equivalent of the sterling sum to be refunded should then be paid in rupees calculated at the official rate of exchange, into the nearest Government Treasury the receipt for the money being produced at any time before the expiration of the six months' period. In the case of a Lady Nurse applying for permission to retire without giving the six months notice, she should attach the receipt for the refund to her application. Lady Nurses entertertained in India should also follow the same procedure in refunding the amount required from them under such circumstances.

Miss Charlotte Simith, an undergraduate in Medicine in the University of London, has lately drawn attention to the importance of physical exercise with reference to brain development. She thus accounts for the frequently poor mental energy found in school girls who are subjected to short "sedate walks" daily as their total physical exercise, and points in contrast to the games of skill and endurance which find favour with boys. She strengthens her argument by appealing to the opinions of Lagrange, who declared that by simply tying the limbs of an infant together so as to prevent all exercise, artificial idiocy could be produced. We fancy the generation to which Miss Smith alludes is fast fading from recollection; the sedate walks were typical enough of a town school girls' limit of pleasure of bygone days. But the young lady of the period threatens to become not only muscular but long limbed. Whether, however in accordance with Miss Smith's theories she really does bring with her more brain power than her prototype of thirty years back, is a question that we feel ourselves unqualified to decide.—*N. P.*

A NEW SANITARIUM DISCOVERED.—Mr. F. J. E. Spring Engineer-in-Chief of the East Coast Railway, says a Bombay contemporary, has discovered a hill in the Ganjum district, which as a sanitarium promises to equal, if not to eclipse any other in India, excepting perhaps Simla. The hill, which is known as Mohendro Giri, is five thousand feet above the sea level, three hundred miles north of Madras, and four hundred south of Calcutta. It is easily accessible, and there is every reason to believe that the people of Madras, Hyderabad, and Bezwada will rush there as early as next year for the hot weather. The rainfall is under forty inches, the sea in full view, for it is only sixteen miles from the sea-port of Barwas, and as is the case all along this part of the coast, a sandy sea breeze blows for many hours of the day during most part of the year, including the so-called hot weather.

A WELCOME APPOINTMENT.—The appointment of Surgeon-Captain F. Burton Brown to officiate as Professor in the Medical College, Lahore, will be welcomed by the numerous friends of this young gentleman's father, who won golden opinions from all classes during his thirty years creditable record of service in the Punjab. As the old gentleman's hostage to the Province, wherein he spent the best part of his life, Surgeon-Captain Burton Brown will receive a hearty welcome from the people. Let us hope that he will be permanently appointed to the Punjab and will walk in the footsteps of his good and respected father, and in time be promoted to the charge of the Medical College, which institution owes so much of its present reputation to the young Professor's very talented father.

MEDICO LEGAL CASES.—The Madras Government has issued an order calling the attention of Magistrates to their frequent disregard of the instructions issued for the packing and despatching of articles sent for analysis to the Government Chemical Examiner, and insisting always on the communication to that officer of the judgment and result of cases reported on by him, which duty is frequently neglected by the Judiciary.

DR. FERDINAND C. SMITH, M.R.C.S., Eng., L.S.A., Lon., Surg.-Maj., Indian Medical Service, University College Hospital, has passed the first professional examination for the diploma of Fellow of the Royal College of Surgeons of England.

SURGEON-COLONEL W. H. Roberts M.D., Madras Medical Department, has permission to retire from the Service.

INDIAN MEDICAL SERVICE.—We understand that the number of appointments in the Indian Medical Service to be competed for in August next, has been definitely fixed at twelve.

Reviews and Notices.

INDIGESTION CLEARLY EXPLAINED, TREATED AND DIETED: *With special remarks on Gout, Constipation, and Obesity, and a chapter on the bringing up of Infants*, BY THOMAS DUTTON, M.D., (Henry Kimpton, London).

This excellent little book is full of sound and useful knowledge. It is quite clear throughout, the matter is dealt with concisely, and the author confines himself to the most ordinary language and dispenses with the usual technical terms. Digestion and its process, the causes of indigestion, and the principles and rules of treatment are all well and ably dealt with. Besides this, there is some invaluable information regarding gout, rheumatism and obesity, and a chapter of especial interest to mothers. On the whole the work is one which can be strongly recommended.

RHINOPLASTY:—*Being a short description of one hundred cases*, BY DR. T. M. SHAH, L.M.S., JUNAGADH, (Junagadh Sarkari Press).

Dr. T. M. Shah has done good work by placing the profession in possession of this little book, the contents of which appeared from time to time in the pages of one of our Indian medical journals. The method of operation in every case is given in detail, and at the end of the volume are a number of rough linear explanatory drawings. Dr. Shah surely deserves much credit, for having availed himself of the opportunity when placed in a locality where deformities of this kind were numerous, and we have no hesitation in saying that, the result of his labours is another proof of what local and locally trained men are capable of doing.

Correspondence.

THE SNAKES OF INDIA.

TO THE EDITOR "THE MEDICAL REPORTER."

DEAR SIR,—I think it is a great pity that such valuable information on the subject of snakes in India, as appears from time to time in your *Medical Reporter*, should lack one most useful piece of information, *i.e.*, as to whether the snake is venemous, deadly, or only partly so.

The above information would greatly enhance the value of any work devoted to the description of the snakes of India.

Yours etc.,

Mussoorie, 17th June, 1893.

S. Amesbury, Bde-Surgeon. R. L.

THE LATE PROF: J. WOOD-MASON.

TO THE EDITOR "THE MEDICAL REPORTER."

SIR,—The late Professor J. Wood-Mason was placed at the head of the Indian museum and occupied the chair of Zoology at the Calcutta Medical College. He made the most valuable use of his time, and has left behind him a name unique of its kind, as one of the foremost workers in the field of natural history. As a pupil and class-assistant during my scholastic days, I had frequent opportunities of coming in contact with him, to be impressed with the generosity of his temper, the suavity of his manner, and his earnestness to impart and instil into the minds of his pupils the storehouse of scientific knowledge acquired by him. Zoology is a bugbear to medical students, and it is almost reluctantly that they attend these lectures to acquire sufficient knowledge to make them pass, and it is this that made the Professor not so popular with the students. An ardent lover of natural science he tried his best to make his pupils see their way to tread in his footsteps. The late Professor may be said to have died a martyr to science. Living away from family relations, he devoted his whole time to the study of that science for which naturally, and professionally he had special aptitude. He was subject to chronic dyspeptic complaints, such as sedentary occupations are always apt to generate. Notwithstanding this, he would never slacken in his duties. He has left behind him in the galleries of the Indian museum, numerous collections of marine animals, which, as a special naturalist to the Indian marine steamer *Investigator* he collected in the Bay of Bengal. Modest workers in science who do not like to have their names paraded abroad often do not receive the recognition they deserve—I mean such is the case in India. A distinguished scholar from the Queen's College, Oxford, Mr. Wood-Mason was specially recommended for the post of Assistant-Curator

of the Indian museum by scientists no less than Huxley and Hooker. He was a Fellow of the Linnæan Society, of the Zoological Society, and of the Geological Society of London. But it was not till the year 1888, that the University of Calcutta weighed his merits and conferred a Fellowship on him. He occupied the chair of zoology at the Medical College for the past 8 years, and has left behind him many original disquisitions and contributions to many scientific journals.

Ranchi, 20th June, 1893.

Yours etc., Noresh Chandra Mitter, M.A., M.B.

Government Medical Notifications.

GAZETTE OF INDIA.

ORDERS BY THE VICE-CHANCELLOR AND SYNDICATE OF THE CALCUTTA UNIVERSITY.

The undermentioned candidates have passed the following Medical Examinations :—

PRELIMINARY SCIENTIFIC M. B.—SECOND DIVISION.

In alphabetical order.

Medical College.—Basu, Surendranath; Chakrabarti, Satyasaran; Datta, Haridhan; Gangopadhyay, Jagendranath; Gangopadhayay, Khagendranath; Ghosh, Krishnakumar; Mitra, Pasupati; Mukhopadhyay, Pramathanath; Mukhopadhyay, Sitanath; Ray, Lalitmohan; Sen, Kalimohan; Sinha, Hiralal; Sinha, Surendranath.

FIRST M. B. EXAMINATION.—SECOND DIVISION.

In alphabetical order.

Medical College.—Barat, Syamlal; Chattopadhyay, Gopalchandra; Datta, Saratchandra; De, Jaygopal; Ghoshal, Chandicharn; Mitra, Satyasaran; Pal, Ratanchandra; Ray, Adharchandra; Sen, Satyendranath.

SECOND M. B. EXAMINATION.—FIRST DIVISION.

Bhattacharyya Sureschandra; Medical College.

SECOND DIVISION.

Mukhopadhyay, Jajneswar; Medical College.

The undermentioned candidates who failed at the Preliminary Scientific M. B., and combined Preliminary Scientific and First M. B., Examinations, having attained the standard of the Preliminary Scientific L. M. S., examination are declared to have passed that examination :—

PRELIMINARY SCIENTIFIC L. M. S. EXAMINATION.

In alphabetical order.

Medical College.—Basu, Harilal; Chakrabarti, Rajendralal; Das, Nagendranath; De, Syamacharan; Johory, J; Mitra, Taraknath; Mukhopadhyay, Purendramohan; Sanyal, Apurbachandra; Sen, Saratchandra; Som, Rajaninath.

His Excellency the Grand Master of the Most Eminent Order of the Indian Empire is pleased to announce that Her Majesty the Queen, Empress of India, has been graciously pleased to make the following appointments to the said Order:

Surgeon-Colonel Archibald Hamilton Hilson, M.D., Indian Medical Service, retired, late Inspector-General of Civil Hospitals, Bengal.

Surgeon-Lieutenant-Colonel David Douglas Cunningham, M.B., F.R.S., Indian Medical Service, Professor of Physiology, Medical College, Calcutta, and Honorary Surgeon to the Viceroy.

His Excellency the Viceroy and Governor-General is pleased to confer the title of Khan Bahadur as a personal distinction upon—

Haidar Shah, Senior Hospital Assistant, Subordinate Medical Department.

No. 272.—The services of Dr. P. M. Gupta, M.B., C.M., Civil Medical Officer, Assam, are placed at the disposal of the Government of Bengal.

No. 275.—Brigade-Surgeon-Lieutenant-Colonel A. Stephen, M.B., is appointed to officiate as Inspector-General of Civil Hospitals, Punjab, during the absence on deputation of Surgeon-Colonel J. Cleghorn, M.D., or until further orders.

No. 278.—The services of Surgeon-Captain W. Vost. M.B., I.M.S., Bengal; Medical Officer, Mushkaf-Bolan State Railway, are placed temporarily at the disposal of the Government of the North-Western Provinces and Oudh.

No. 67.—The services of Surgeon-Colonel J. Cleghorn, M.D., Inspector-General of Civil Hospitals, Punjab, are placed temporarily at the disposal of the Military Department.

C. P. GAZETTE.

No. 5.—The undermentioned student of the Grant Medical College, Bombay, is admitted into the service as an Assistant Surgeon, with effect from the date specified :—

Mr. Malhal Narayen Korde,—27th April 1893.

No. 4164.—The undermentioned medical pupils of the Temple Medical School, Patna, having been reported by the Principal of that Institution as qualified, are promoted to the grade of 3rd Class Civil Hospital Assistants, to fill existing vacancies, with effect from the date entered against their names :—

No.	Name.	Date of rank	Ordered to do duty at
1	Laxman Bapooji ...	1st April 1893.	Nagpur.
2	Rama Gadi ...		
3	Balwant Laxman ...		
4	Bhagwant Deen Misser ...		
5	Chandra Bhan ...		

No. 4169.—Third grade Assistant-Surgeon Malhar Narayen Korde, whose services have been placed at the disposal of the Chief Commissioner, Central Provinces, reported his arrival at the office of the Deputy Surgeon-General, Central Provinces, on the forenoon of the 1st May 1893, and is directed to do duty under the orders of the Civil Surgeon, Nagpur.

No. 4172.—The undermentioned Civil Hospital Assistants, who passed their Septennial Examination on the 15th April 1893, are advanced to the next higher grade from the dates entered against their names :—

Name.	With or without English qualification.	Date of completion of 14 years' service.	Date of completion of 7 years' service.	Date of promotion, and to what grade.
Shaik Mahomed Habibulla.	With ...	1st April 1893.	...	1st April 1893, to 1st Class.
Jairam Dowlat...	Do. ...	Do. ...	...	Do.
Ram Dutt ...	Do. ...	6th April 1892.	...	15th April 1893. to 1st Class.
Ganga Pershad Singh.	Do. ...	Do. ...	...	Do.
Sohan Lal ...	Do. ...	...	1st April 1888.	15th April 1893, to 2nd Class.

ASSAM GAZETTE.

No. 85.—Third-grade Hospital Assistant Girish Chandra Das, in temporary medical charge of the Jorhat Dispensary and Lock-up, is, on relief, transferred to Nowgong and appointed to the medical charge of the Roha Dispensary in that district.

No. 86.—Third-grade Hospital Assistant Bipin Bihari Chakravarti, in medical charge of the Roha Dispensary in the Nowgong district, is, on relief, appointed as a Supernumerary for duty under the orders of the Civil Medical Officer, Nowgong.

No. 87.—Babu Boloram Das is confirmed as Third-grade Civil Hospital Assistant in Assam, with effect from the 30th March 1893, *vide* Medical Department Notification No. 132, dated the 6th September 1892, published in the *Assam Gazette* of the 10th idem.

No. 88.—With reference to the Medical Department Notification No. 34, dated the 23rd March 1893, Third-grade Hospital Assistant Amrita Lal Bose will remain at Nowgong for duty as a Supernumerary until the Dispensary at Dinoo in that district is opened, with effect from the 12th April 1893.

No. 89.—Third-grade Hospital Assistant Rajani Kanta Gupta, having passed the Septennial Professional Examination of the Hospital Assistants in accordance with the provisions laid down in G. G. O. No. 399 of 1854, is promoted to be Second-grade Hospital Assistant, with effect from the 9th April 1893.

No 90.—Third-grade Hospital Assistant Kali Mohan Sen (2nd), a Supernumerary in the Naga Hills district, is appointed to the medical charge of the Tamlu Frontier Police in that district, with effect from the date of taking over charge.

No. 9.—The undermentioned Hospital Assistant has passed the English Qualification Examination according to the test laid down in G. G. O. No. 945, dated the 11th October 1868:

Rank and name.	Date of rank.	Date of passing the English Qualification Examination.
Third-grade Hospital Assistant Gobinda Biswas.	29th March 1893.	26th May 1893.

G. O. C. C.

346. G. O. C. C. No. 215 of 1893, granting Surgeon-Captain J. T. Daly, Indian Medical Service, an extension of leave from the 4th to the 10th October 1892, is cancelled.

29th Bengal Infantry.—Surgeon-Captain D. T. Lane to the medical charge of the regiment, *vice* Surgeon-Lieutenant-Colonel K. M. Downie.

365. The undermentioned officer has been declared by the Board of Examiners, Calcutta, to have passed the examinations specified against his name:—

Surgeon-Captain K. Prasad, Indian Medical Service. } Higher Standard in Persian.

370. Lady Superintendent J. E. Oxley and Deputy Superintendent M. E. Beresford retire from the Indian Nursing Service, the former on the 31st March 1893, and the latter on the 26th idem.

371. *Indian Nursing Service.*—The following promotions are made in supersession of those notified in G. O. C. C. Nos. 272 and 272 of 1893:—

To be Lady Superintendent—Deputy Superintendent L Maxwell-Muller, dated 1st April 1893, *vice* J. E. Oxley retired.

To be Deputy Superintendents—Nursing Sister I. E. Stanistreet, dated 21st February 1893, *vice* E. M. Lickfold, resigned.

Nursing Sister A. D. Murray, dated 27th March 1893, *vice* M. E. Beresford, resigned.

Nursing Sister F. G. Stoney, dated 1st April 1893, *vice* L. Maxwell-Muller, promoted.

Nursing Sister E. L. Jardine, dated 6th April 1893, *vice* M. E. M. Latch, resigned.

To be Officiating Lady Superintendents.—From the date of joining their respective appointments:—

Deputy Superintendent J. M. James, *vice* C. G. Loch, on leave.

Deputy-Superintendent D. M. Moore, *vice* A. R. Betty, on leave.

Deputy Superintendent A. M. Murray, *vice* L. Maxwell-Muller, on leave.

To be Officiating Deputy Superintendents.—From date of joining their respective appointments:—

Nursing Sister M. Pearse, *vice* J. M. James, promoted.

Nursing Sister C. L. Still, *vice* A. M. Murray, promoted.

Nursing Sister A. Bolster, *vice* D. M. Moore, promoted.

Nursing Sister M. K. Hayes, *vice* E. D. Harris, on leave.

The undermentioned officer has leave of absence:—

14th Bengal Lancers.—Surgeon-Captain R. J. Marks, on private affairs to Mussoorie, for 3 months, from date of availing himself of the same, under the Leave Rules for the Staff Corps.

400. Surgeon-Captain H. Smith, in officiating medical charge of the 2nd Battalion 1st Gurkha, Rifles, is appointed to the medical charge of the Cantonment General Hospital at Dharmsala, with effect from the 1st April 1893.

522. 2nd Grade Apothecary A. D'Silva is granted three months' leave in India, on medical certificate, under the Leave Rules of 1875.

529. At the examinations held on the 28th March 1893, and following days, the undermentioned were found qualified as noted opposite their names:—

Military Law.

Surgeon-Captain J. F. Donegan, Army Medical Staff.
" H. C Thurston, " " "
" J. W. Cockerill, " " "
" C. A. Young, " " "

BURMA GAZETTE.

No. 76.—At a special meeting held on the 8th April 1893 the Prome Municipal Committee elected Dr. J. T. Weston, Civil Surgeon, Prome, to be their Vice-President for the year 1893, *vice* Mr. R. H. Nailer, who has resigned,

No. 324.—The following promotions are made, subject to Her Majesty's approval:

MEDICAL DEPARTMENT.—*Surgeon-Majors who have completed 20 years' full pay service to be Surgeon-Lieutenant-Colonels.*

The 1st April 1893.

* * * * * *

Oswald Baker.

* * * * * *

No. 188.—Surgeon-Captain C. N. Bensley made over, and Surgeon-Captain C. L. Williams, M. D., assumed, charge of the Civil Surgeoncy, Akyab districts, on the forenoon of the 12th April 1893.

No. 189.—Surgeon-Captain A. R. P. Russell made over, and Surgeon-Captain C. N. Bensley assumed, charge of the Civil Surgeoncy, Toungoo district, on the forenoon of the 22nd April 1893.

No. 190.—First Grade Hospital Assistant No. 38, Bhugwan Pershad, on proceeding to Mandalay to give medical evidence, relinquished charge at the Outpost Hospital, Momeik, Ruby

Mines district, on the forenoon of the 26th March 1893, and resumed charge on the forenoon of the 8th April 1893.

No. 191.—Second Grade Hospital Assistant No. 102, Abraham Samuel, on return from privilege leave granted him in Notification No. 21, dated the 11th January 1893, assumed charge of his duties at the Civil Hospital, Kindat, on the afternoon of the 26th February 1893.

No. 192.—Under paragraph 7 of Government of India Home Department Resolution No. 16, dated the 9th January 1878, Second Grade Hospital Assistant No. 102, Abraham Samuel, was placed in charge of the Police and Jail Hospitals, Kindat, as an additional duty from the afternoon of the 20th February 1893 to the forenoon of the 31st March 1893.

No. 193.—Third Grade Hospital Assistant No. 80, Koilas Chander Palit, relinquished charge at the Police Hospital, Bhamo, on the afternoon of the 14th April 1893, and assumed charge at the Military Police Column, Sima, Bhamo, district, on the forenoon of the 15th April 1893.

No. 194.—Third Grade Hospital Assistant No. 627, Ram Lal, relinquished charge at the Outpost Hospital, Mogaung subdivision, on the forenoon of the 21st March 1893, aud assumed charge at the Police Hospital, Myitkyina, Mogaung subdivision, on the forenoon of the 30th March 1893.

No. 195.—Third Grade Hospital Assistant No. 106, Peter, Aquah, relinquished medical charge of the North-Eastern Column, Military Police, on the forenoon of the 27th March 1893, and assumed charge at the Police Hospital, Myitkyina, Mogaung subdivision, on the forenoon of the 1st April 1893.

No. 196.—Third Grade Hospital Assistant No. 56, Wazir Singh, relinquished charge of duties with the Public Works Deparment at Katha on the afternoon of the 30th November 1892, and assumed charge in the same department at Bhamo on the forenoon of the 10th December 1892.

No. 197.—Third Grade Hospital Assistant No. 56, Wazir Singh, relinquished charge of duties with the Public Works Department at Bhamo on the forenoon of the 17th March 1893, and assumed charge at the Outpost Hospital, Chaungu, Sagaing district, on the afternoon of the 8th April 1893.

No, 198.—Third Grade Hospital Assistant Lakmi Narayen Mitter, on proceeding to Rangoon for his English qualification examination, relinquished charge at the Outpost Hospital, Pinlebu, Katha district, on the afternoon of the 7th April 1893.

No. 199.—Third Grade Hospital Assistant No. 589, Arjan Das, relinquished charge at the Outpost Hospital, Momeik, Ruby Mines district, on the forenoon of the 8th April 1893, and was attached temporarily to the Police Hospital, Mogok, Ruby Mines district, on the afternoon of the 14th April 1893.

No. 18.—Surgeon-Captain C. N. Bensley and C. L., Williams respectively relinquished and assumed, executive and medical charge of the Akyab Jail on the forenoon of the 12th April 1893.

No. 19.—Surgeon-Captains A. R. P. Russell and C. N, Bensley respectively relinquished and assumed executive and medical charge of the Toungoo Jail on the forenoon of the 22nd April 1893.

First Grade Apothecary Henry Wells, to be Second Grade Senior Apothecary, ranking as Honorary Lieutenant, subject to Her Majesty's approval, with effect from the 4th March 1893, *vice* Second Grade Senior Apothecary James Anderson, retired.

No. 179.—Surgeon-Captain T. W. Stewart, on return from privilege leave, assumed charge of the Civil Surgeoncy, Minbu district, on the forenoon of the 11th April 1893, *vice* Surgeon-Captain B. K. Basu, M.D.

No 180.—Surgeon-Captain H. M. Morris, on return from furlough, assumed charge of the Civil Surgeoncy, Meiktila district, on the forenoon of the 14th April 1893, *vice* Surgeon-Major G. Mckee.

No. 181.—Third Grade Hospital Assistant No. 116, Nil Kant Satpatz, attached to the Mu Valley State Railway, was found qualified in English and is entitled to the allowance for English qualification with effect from the 5th April 1893.

No. 182.—Third Grade Hospital Assistant No. 80, Chander Shekore Roy, relinquished charge at the Police Hospital, Bhamo, on the afternoon of the 6th April 1893, and assumed charge at the Police Hospital, Mandalay, on the afternoon of the 9th April 1893.

No. 183.—With reference to Notification No. 115, dated the 16th March 1892, Third Grade Hospital Assistant No. 117, Promonand Mahpatra, assumed charge at the Police Hospital, Kindat, Upper Chindwin district, on the forenoon of the 31st March 1893.

No, 184,—Under paragraph 7 of Government of India Home Department Resolution No. 16, dated the 9th January 1878, Third Grade Hospital Assistant No. 117, Promonand Mahpatra was placed in charge of the Jail Hospital, Kindat, Upper Chindwin district, from the forenoon of the 31st March 1893.

No. 185.—Third Grade Hospital Assistant No. 1181, T. S. Melchisedec, on transfer to Yamethin, relinquished charge at the Outpost Hospital, Paungbyin, Upper Chindwin district, on the afternoon of the 6th April 1893.

No. 186.—With reference to Notification No. 135, dated the 23rd March 1893, Third Grade Hospital Assistant No. 1190, P. Thoymonsawmy assumed charge at the Outpost Hospital, Homalin, Upper Chindwin district, on the forenoon of the 29th March 1893.

No. 187.—With reference to Notification No. 121, dated the 16th March 1893, Third Grade Hospital Assistant No. 72, J. N. Bhuttacharjee assumed charge at the temporary Small-pox Hospital, Papun, on the forenoon of the March 1893.

No. 16.—Surgeon-Captain H. M. Morris assumed executive charge of the Meiktila District Jail from Surgeon-Major G. Mckee, I.M.S., on the forenoon of the 14th April 1893.

No 17.—Surgeon-Captain T. W. Stewart, I.M.S., assumed executive and medical charge of the Minbu District Jail from Surgeon-Captain B. K. Basu, M.D., I.M.S., on the forenoon of the 11th April 1893.

No. 111.—Surgeon-Major M. F. Macnamara, M.S., is appointed to be Civil Surgeon of the Shwebo district in addition to his military duties *vice* Surgeon-Leiutenant R. K. Mitter, who has been transferred.

No. 9.—Mr. J. A. Maddox, Civil Surgeon, Kyaukpyu, made over, and Maung Po Myit, Myoôk and Township Officer, Kyaukpyu, received, charge of the District Treasury, Kyaukpyu, on the forenoon of the 16th May 1893.

No. 240.—Local Assistant Surgeon Maung Tha Do Aung, on return from privilege leave granted him in this office Notification No. 167, dated the 13th April 1893, assumed charge at the General Hospital, Mandalay, on the forenoon of the 26th May 1893-

No. 241.—First Grade Hospital Assistant No. 3, Syed Ulfath Ali, attached to the Railway Dispensary, Zigon, Tharrawaddy district, was granted privilege leave from the 17th February to the 17th March 1893, both days inclusive.

No. 242.—With reference to Notification No. 204, dated the 11th May 1893, First grade Hospital Assistant No. 1088, D. M. Job assumed charge at the civil Dispensary, Fort Stedman, Southern Shan States, on the afternoon of the 23rd May 1893.

No. 243.—Second Grade Hospital Assistant Abdul Guffur relinquished charge at the Civil Hospital, Yamethin, on the forenoon of the 26th April 1893, and assumed charge at the Police Hospital, Kindat, Upper Chindwin district, on the afternoon of the 9th May 1893.

No. 244.—Under paragraph 7 of Government of India Home Department Resolution No. 16, dated the 9th January 1878, Second Grade Hospital Assistant Abdul Guffur was placed in charge of the Jail Hospital, Kindat, Upper Chindwin district, as an additional duty from the afternoon of the 9th May 1892.

No. 245.—Second Grade Hospital Assistant No. 1160, T. R. Srinivasa relinquished charge at the Police Hospital, Ye-u, on the afternoon of the 16th May 1893, and assumed charge at the Civil Hospital, Ye-u on the forenoon of the 17th May 1893.

No. 246.—With reference to Notification No. 199 dated the 27th April 1893, Third Grade Hospital Assistant No. 589, Aijan Dass relinquished charge at the Police Hospital Mogôk, Ruby Mines district, on the afternon of the 20th April 1893, and assumed charge at the Outpost Hospital, Mobein, Ruby Mines district, on the afternoon of the 29th April 1893.

No. 147.—Third Grade Military Hospital Assistant No. 1230, A. Arunachella Naicker was placed in medical charge of followers and survey kallassies accompanying the Assistant Superintendent, Southern Shan States, on tour from the forenoon of the 7th, November 1892 to the afternoon of the 5th April 1893.

No. 248.—Third Grade Military Hospital Assistant No. 1191, Abdul Rahim Khan made over and Third Grade Military Hospital Assistant No. 1230, A. Arunachella Naicker assumed charge of the Civil dispensary, Loikaw, Southern Shan States, on the afternoon of the 12th May 1893.

No. 249.—Third Grade Hospital Assistant No. 97, Shaik Abdul Majid relinquished charge at the Police Hospital, Bhamo, on the afternoon of the 19th May 1893, and assumed medical charge of the military police column in the Bhamo district on the forenoon of the 20th May 1893.

No. 250.—Third Grade Hospital Assistant No. 157, Ramaya Nagappa, on availing himself of two months' privilege leave, relinquished charge at the Police Hospital, Minbu, on the afternoon of the 10th May 1893.

No. 251.—Third Grade Hospital Assistant Johan Chunder Gangapadia relinquished charge at the Outpost Hospital, Engyi, Ye-u district, on the afternoon of the 8th May 1893, and assumed charge at the Police Hospital, Ye-u, on the afternoon of the 19th may 1893.

No. 252.—Third Grade Hospital Assistant No. 76, Latafat Hussain relinquished charge at the Civil Dispensary, Ye-u, on the forenoon of the 17th May 1893 and assumed charge at the Police Hospital, Ye-u, on the afternoon of the same date.

No. 253.—Third Grade Hospital Assistant No. 87, Brindaban Das, on transfer to Lashio, Northern Shan States, relinquished charge at the Civil Dispensary, Fort Stedman, Southern Shan States, on the afternoon of the 23rd May 1893.

No. 254.—With reference to Notification No. 239, dated the 25th May 1893, Third grade Hospital Assistant No. 93, Andrew Po Saw assumed charge at the Civil Dispensary, Shwebo, on the afternoon of the 18th May 1893.

No. 255.—Under paragraph 7 of Government of India, Home Department Resolution No. 16, dated the 6th June 1878, Third Grade Hospital Assistant No. 93, Andrew Po Saw was placed in charge of the Jail Hospital, Shwebo, as an additional duty from the afternoon of the 18th May 1893.

No. 256.—Under sanction accorded in General Department letter No. 473-4X—45. dated the 19th September 1892, from the Under Secretary to the Chief Commissioner, Burma, Josiah Massillamoney is re-appointed a Third Grade Hospital Assistant with English qualification.

No. 257.—With reference to the the above notification Third Grade Hospital Assistant No. 125, Josiah Massillamoney assumed charge at the police Hospital, Minbu, on the forenoon of the 17th May 1893.

Domestic Occurrences.

BIRTHS.

SYKES.—On the 20th May, at Kenilworth Lodge, Mussoorie, the wife of Surgeon-Major J. Sykes, Civil Surgeon, Mussoorie, of a daughter.

BROUGH.—At Khagole, on the 19th May, 1893, the wife of J. Brough, Medical Officer, E. I. R, of a daughter.

DEATHS.

LANE.—At Cheltenham, on May 17, 1893, Caroline Arbuthnot, wife of Brigade-Surg. B. Lane, aged 60.

BRISCOE.—At Dover, on May 9, 1893, Henry Briscoe, M.D., half-pay Royal Artillery, and late H. M. Inspector of Prisons, aged 74.

COTES.—On the 4th May, at Bournemouth, Charles Edward Henry Cotes, B.A., M.S., M.B., Cantab, F.R.C.S., of 20 Wilton-street, S. W., younger son of the late Maj. C. Cotes, R.A.—aged 33 years.

PRICE.—At 26, Belsize Road, Hampstead, N.-W. (and of No. 26, Hatton Garden, E. C.) on May 10, 1893, Frederick Sterne Price, L.R.C.P., L.R.C.S.I., aged 48.

HALL.—At Comillah, Tipperah, on the 30th of May, 1893, of puerperal fever, Alice Dora Elizabeth, the darling wife of Surgeon-Captain E. A. W. Hall, I.M.S., aged 20 years, 11 months and 27 days

Acknowledgments.

ANSWERS TO CORRESPONDENTS.

Municipal Secretary.—We think the question is one for your Health Officer to decide, the Engineer has nothing to do with it.

Anti-vaccinator.—We regret we cannot coincide with your view of the matter, your arguments shew that you have not quite mastered the subject.

Sub-Assistant Apothecary.—We would be glad to receive a copy of the details of the case you refer to as worth publishing.

R. D.—We will give your article space in our next.

Army.—We are not aware that any such Regulation exists.

L. M. S.—Your colleague under the circumstances should not have interfered, and professionally you have grounds of complaint against him.

Hopeful.—Practices are seldom bought or sold in India. Hospital appointments are mostly held by men in the Government services.

Jeeva Jootha Bhavnaggur.—'Notes on New Remedies' is a monthly journal, devoted to furnishing early and reliable news of the new additions to contemporary therapy. It is published by Messrs Lehn and Fink, No. 128, William Street, New York, U. S. A. You will be supplied with a specimen copy from them on application.

Enquirer, London.—You will be furnished with full information regarding this Journal by applying to Messrs Gordon and Gotch, No. 15, St. Bride Street, Ludgate Circus, London E. C., who are the Sole Agents in Great Britain for this paper.

Communications have also been received from the following:—

Dr. Leonard A. Bidwell F.R.C.S., London; Dr. J. C. Day M.B., Assam; Dr. A. P. Dass, L.M.S., Calcutta; Dr. Richard Nugent L.R.C.P., and S. Calcutta; Dr. R. N. Ghosal, L.M.S.,

Calcutta; Dr. A. L. Sandel, M.B., C.M., Calcutta; Dr. Cheetun Shah, Ludiana; Dr. Mul Chand, Civil Medical Officer, Delhi; H. W. Foscholo, Esq. S.M.D., Calcutta; D. Robertson, Esq. S.M.D., Ootacamund; Dr. Wright, London; Dr. Green, London; Editor, *Sanitary Record*, London; Dr. R. P. Bannerjee B.A., G.B.M.S.L., Pachbadra, Rajputana; Dr. V. J. Pillai M.B., Madras; Dr. N. C. Mittra, M.A., M.B., Ranchi; Dr. G. Egappa, L.M.S., L. F. Hospital, Dachepalle; Hospital Assistant Doorgiapillay, Charitable Dispensary, Akola; Dr. Chuckerbutty, Calcutta; Dr. Cooper, Agra; Dr. R. L. Kerr, L.R.C.P.E., Calcutta; Dr. S. Amesbury, R. L., Brigade Surgeon, Mussoorie; Secretary, Royal College of Physicians, London.

Periodicals.—The Lancet—The British Medical Journal—The Edinburgh Medical Journal—Indian Medical Gazette—Journal de Mèdicine de Paris—Modern Medicine—Australian Medical Journal—The Sanitary Journal—The Medical and Surgical Journal—The Medical Times and Register—The Lancet-Clinic—The Medical Bulletin—The Medical and Surgical Reporter—The New York Medical Journal—The Family Doctor—The Medical Week—Health Messenger—Health—The Medical Record—British and Colonial Druggist—Chemist and Druggist—The Medical Review—New Orleans Medical and Surgical Journal—The Medical Monthly—The Scalpel—The Humanitarian—The Popular Science Monthly—The Sanitary Record—The Medico-Surgical Bulletin—The Southern Medical Record.—The Sanitarian—Doctor's Weekly—The Post Graduate—The Therapist—The Universal Medical Journal—The Medical Compend—The Medico-Chirurgical Review—The Medical Fortnightly—Notes on New Remedies.

Books received.—Marks' Treatise on Artifical Limbs (A. A. Marks, New York)—Report of the Subathu Leper Asylum (Albert Press, Lahore)—The Study of Indigenous Drugs, By Surgeon-Captain B. D. Basu, I.M.S. (A reprint—Cutch Darbari Press)—The Health Resorts of Europe, By T. Linn, M.D., (Henry Kimpton, London).

Government Gazettes.—Gazettes of the Government of India, N. W. P. and Oudh, Burmah, Central Provinces, and Assam—G. O. C. C., By His Excellency the Commander-in-Chief.

Newspapers.—The Home News—The Indian Daily News—The Statesman—The Eastern Guardian—The Evening Star—Newman's Bradshaw—Hope—The East—Islam—Bombay Native Opinion—Bangalore Spectator—Nagpur and Berar Times—Progress—Punjab Patriot—Arrakan News—Rangoon Gazette Weekly Budget—The Express—Madras Advertiser—Behar Herald and Indian Chronicle—Bombay Guardian—Banner of Asia—Tribune—Beluchistan Gazette—Western Wit and Wisdom—Indian Empire—Gwalior Gazette—Eurasian Recorder—People's Friend—India Watchman—Western Star—Messenger of Light—Indian Nation—Indian Union—Poona Observer—National Guardian—Indian Engineering—Courier—The Argus—The Bengal Times—Signs of the Times—The Indian Textile Journal—The Amrita Bazaar Patrika (Weekly Edition).

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Original Articles.

MYCETOMA; VARIETIES, ITS CLINICAL ASPECTS: WITH CASES,

By T. M. SHAH, L.M.S.,
In charge JUNAGADH STATE HOSPITAL.

Three distinct varieties of fungus foot are met with—the black, the white, and the red. The black variety of fungus disease is the most prevalent of the three, the white form stands next, and the red is very rare. These designations are derived from the color of the granules that are thrown out with the discharge from numerous fistulous openings of characteristic Madura foot.

This disease usually attacks the foot, and hence it is called fungus or Madura foot. In exceptional instances it is met with in the hand. In nearly 95 per cent of mycetoma, the foot is the seat of this disease. In the foot, the disease appears mostly on the sole at first, sometimes on the dorsum and rarely on other parts of it. It begins usually as a hard, circumscribed swelling, occasionally it may appear as a diffused mass, or rarely it may show itself with a slight injury. As a rule no cause can be assigned to the disease, in some cases the prick of a thorn, or wound, or some slight abrasion is associated with its commencement. Once it has planted itself—the rule is that it spreads. In some cases the external swelling remains blind for months or years, and the disease extends in the interior of the cellular tissues, muscles, tendons and bones, as is illustrated by the following case.—

Raja Somut, aged 35, was admitted on 14th June 1892, with a blind, hard, diffused growth, of 6 months duration, on the dorsum of right foot. It was painful on pressure and while walking. It seemed like an enchondroma of the metatarsal bone of second toe. The plantar surface was quite free. On opening the tumour, numerous mycetomatous sacs were found on and between the metatarsal bones. Hey's amputation of foot was performed.

In other cases the external swelling ripens early, bursts, and discharges matter. The swelling and openings go on multiplying, old openings close up, and new ones appear. The swelling involves the entire foot, distorting even the toes and extending above the ankle. The extension of the disease of the leg is quite apparent in most cases, as the limb is studded upwards with numerous fistulæ. But in a few cases it looks treacherous in its onslaught on the leg which appears quite healthy outside. I have seen the disease on the popliteal space discharging the characteristic white granular substance together with enlarged glands in the groin, with the entire leg externally free.

Mano Herji, aged 40, was admitted on the 7th May 1892, with swelling and numerous fistulous openings over the right foot, discharging mycetomatous granules. The disease did not apparently extend above the ankle. On 12th May, the patient was chloroformed, morphia was injected, and amputation of the leg at its lower third was performed. While amputating, a hard lump was detected in the popliteal region—on sqeezing which, matter together with white granules were discharged. The entire leg and the seat of amputation seemed apparently to be quite free of the disease.

In another instance of the white variety, the disease was seen externally about 2 inches above the ankle. But while amputating the limb close up to the knee, the minute gray granules were found in the neighbourhood of the large posterior tibial vessels.

In most cases the disease spreads externally, and at the same time it does ravage to the internal structures, even including all the tarsal bones and lower end of tibia.

The black form of fungus is the most rapacious kind of the disease. The white or gray sort of fungus—though it involves the soft structures much more deeply and extensively than what its external aspect indicates, it assails osseous structures very rarely.

On a section of diseased foot, we find numerous large or small loculi filled with dirty grumous matter, and black granular substance. In the white variety, there are sago-like granular bodies instead of black ones. The natural structures are destroyed and this morbid growth is rampant in their place.

The patient goes on with his work for some time, but he is ultimately crippled—the disease and pain tell upon his general health, and the limb is rendered finally unfit either for support or for locomotion. Then the patient resorts to a hospital, the knife of the surgeon relieves him from the constant worry and misery, but deprives him of an important part of a limb for the rest of his life.

The disease was investigated some years ago by Dr. Carter, and he ascribed it to a vegetable parasite called "fungus Carteri". No further steps appear to have been taken to confirm this announcement. We Indians always lack in original research, our medical brethren who come here to labour upon the same soil, contract the same contagion from us, and are rendered in most cases incapable for true scientific laboratory work. It is therefore that, though the vast peninsula of India affords such ample field for observation and experience, yet little is added to scientific medical research by Indian medical men.

It is still, therefore an enigma—what this disease is really due to, whether the black, gray and red varieties are due to the same parasite or to different species. How the fungus

gets into the body, how it is be eradicated, and what, if any, relation they bear to one another, are questions yet to be solved.

The onslaught, progress, destruction of the natural tissues, and the external appearances, &c., are very much alike in all the forms, but the colour of the granular substance is distinct in the different varieties.

One form always runs its own course from beginning to end, and never runs into another. In no case, and at no stage, are the black and gray varieties met with in the same foot; so that at present, notwithstanding all their external semblances, we are obliged to look upon them as distinct diseases. I have seen the disease at various periods of its life, from a few months of its commencement to many years of its existence; but in the same limb, I have never seen both forms of fungus.

Mycetomatous disease is seen among the lower classes of people—shepherds, cultivators, and other labouring people. It is never seen among the higher or well-to-do classes of Hindoos, Mussulmans, or other caste people. It is generally seen in persons who have to walk bare-foot, and have to deal with fields and forests. It is also generally seen among people residing in the country, and not in towns

It is more frequent in males than in females. In the numerous cases that I have seen, it has always continued its onward progress. But the following case which recently came under my observation, was exceptionally stationary.

Soma Vira, aged 25 years, resident of Chaya, belonging to Porebunder, admitted on 9th March 1893, with a flat, lobulated swelling, on outer aspect of the right foot—all over and a little beyond the outer malleolus. It was lobulated just like a small bunch of enlarged lympahatic glands. There was one opening in the middle of the growth, discharging matter and black granules.

The growth was said to be of ten years duration. It came on without any apparent cause. For the first four years it was blind, and then it burst. Ever since, it closes up and rebursts every now and then. It is quite circumscribed and limited, and not diffused as in the usual run of mycetomatous growths.

Chloroform administered, morphia injected, and Esmarch's bandage applied. A crucial incision made on the growth, four triangular portions of skin reflected back, and the entire lump consisting of three or four lobes just like lymphatic glands, dissected carefully out. When the lobe was punctured at any point, matter and black granules came out. Two tendons in front of outer malleolus were exposed during dissection. The part dressed with corrosive lotion, and bandage applied. The patient was discharged cured, and left the hospital on 21st March 1893.

During ten long years it was confined to the outer malleolus, and was found in three or four lobes or sacs. The disease did not extend beyond the cellular tissue. This is an exceptional case. In the general run of cases—the foot is swollen, distorted, and almost destroyed in the course of 2, 3 or 4 years, and the general health is materially affected. But in the instance under notice the man was in excellent health, and the disease quite localised and circumscribed.

In patients that resort early for treatment, the diseased portion if limited superficially, and favourably situated, is excised, and all the abnormal substance carefully dissected out. In other cases where the disease, though deep, is confined to a side—the foot is amputated in part. When the disease involves the entire foot—amputation is performed and even more or less of the leg sacrificed.

On reference to the records of the Junagadh State Hospital for the last three years, 1890, 1891, 1892, I find that forty-five cases of mycetoma were admitted for treatment. Out of this, 12 were of the black variety, 29 belonging to the gray form, and in 4 the real nature of the fungus could not be ascertained.

Although my impression was that black fungus was more prevalent than the white, yet I find from the records, that the latter form occurs more frequently.

In four instances no variety of the disease could be ascertained, because neither the discharge nor the part on dissection appeared to show either variety of granular matter. The external appearances in each case were highly suggestive of mycetoma.

1. A female, Sonai Jethu, aged 40 years, came in from Amerali District on 25th May 1892, with a characteristic diffused swelling on the sole of left foot, having numerous openings on its surface. The disease had existed for four months only. Discharge from the openings contained no granular matter. The patient was chloroformed, and the diseased tissues were excised, but no apparent fungus was detected. The growth recurred, fistulous openings formed on its surface, and the patient returned on 11th December of the same year. The diseased portion was again excised, but no distinct fungus matter was observed.

2. Arjoon Kuno, aged 35 years, admitted 15th March 1892, had the usual characteristic swelling and sinuses over the dorsal and plantar aspect of right foot. The disease had been in existence for a year, contained no granules of either kind. The foot was amputated and the patient discharged cured.

3. Bhovan Gopal, aged 25 years, was admitted on 25th May 1892, with swelling and sinuses in the right foot, which had existed for an year. The suspicious portion was excised, but no fungus matter was detected. I recollect another case where the limb presented all the characters of the mycematous growth, which was amputated from the leg, but no fungus substance was observed. These cases are perplexing. Lately, at Bombay, my friend Mr. Trilokekar showed me a foot that was strongly suspected to be mycetomatous, which was amputated at the J. J. Hospital, but the characteristic fungus deposits were not to be seen on a section of the foot. Only one or two spots presented a semblance of the disease. Such cases suggest a more thorough investigation of this disease, endemic to this country.

Among the 45 cases, the duration of the disease, when the patients came to the Hospital, was as is shown below.

One year and under, 12; between 1 and 5, 19; between 5 and 10, 9; above 10 years, 5.

There were 30 males, 14 females, and one child among the 45 cases.

With regard to their occupations, the 30 male patients are recorded as 11 cultivators, 8 labourers, 1 barber, 1 washerman, 1 hawker, 1 weaver, 1 potter, 1 tailor, 1 brahmin, 2 shepherds, 1 shoemaker, and 1 blacksmith.

The child belonged to a shepherd, and the 14 females may be put down to the labouring or cultivating classes.

In 19 cases the right foot was affected, in 24 cases the left foot was the seat of disease, and in 2 instances the hand was involved.

Out of the 45 patients, 21 required amputation of the foot and leg, 12 amputation of foot, one amputation of forearm, one of finger, and 6 required excision of the growth.

Four of them did not submit to operative measures. This statement confirms the allegation that, as a rule patients resort to hospital only when the disease has far advanced.

I have come across one case of real mycetoma of the black variety that was cured by application of medicines, as a rule operative interference is the only cure for it. Cases of excision are not satisfactory, even though I have used nitric acid, saturated solution of chloride of zinc or liquor potass, for the thorough eradication of the disease after excising the morbid growth. The disease returns in many instances after excision.

ERYSIPELAS.—
A FEW REMARKS ON ITS TREATMENT.

By Assistant-Surgeon P. C. Banerjee,
Benares.

Erysipelas is one of the most dangerous diseases we have to combat with, and in surgical and midwifery practice it is especially dreaded for its wide spread infection and its fatality. Notwithstanding all known precautions and scientific efforts to destroy its poison, the disease is carried from person to person, and in this way the reputation of many a medical man has been jeopardized. The simple cutaneous erysipelas is not a serious disease, and its treatment is simple. When the disease attacks the cutaneous and the cellular tissues, and affects the constitution, then it assumes a graver form. The poison does not emanate at the earlier stages, but when the constitutional disturbances are at their height, and when desquamation sets in. This is not peculiar to this disease as it occurs in all eruptive diseases. Erysipelas of the limbs, extremities, and abdomen, is not so dangerous as that of the chest and head. The poison of erysipelas like many other subtle poisons cannot be analysed, isolated, and demonstrated, but by its effects. It attacks all ages and all constitutions.

Its treatment is very vague, and unsatisfactory, and merely symptomatic. The constitutional disturbance is quieted, fever is treated by diaphoretics and other febrifuges, bowels cleared by purgatives, and nourishing food given to support the system. Soothing applications are applied to relieve pain, and styptics are sometimes combined with it. Formerly chlorate of potash and medicines yielding a large quantity of oxygen to the system were administered. The constitution was supported by tonic medicines and wines. Iron in different shapes was combined with internal and external medicines.

The treatment which I have found most successful in my practice is iron. If iron is administered internally, and applied externally, irrespective of the different stages of the disease and the age of the patient, I am sanguine that the most obstinate cases will come round. I prefer tinct: steel to all other preparations of iron. Tinct: ferri muriat: of the British pharmacopœia is the best form. It should be given internally in ♏ xx doses every hour or two, to an adult person, and a lotion of the same should be applied externally. The lotion sometimes proves too strong for delicate skins, and then I substitute sulphate of iron of the bazar in its place. The green crystals are the best. A lotion consisting of ʒii of sulphate of iron to a pint of water is a very good substitute for tincture ferri muriate, ʒss to a pint of water. I have been following this plan of treatment for some time, and I have found it very efficacious, so much so, that erysipelas has been checked within 48 hours, if not within 24 hours. The application of iron produces a discoloration of the skin, and destroys the natural appearance. I have always thought of how to avoid this evil, and have been advised by a friend, to try starch as a substitute for the iron application, and the result, I am happy to notice, is very satisfactory. The starch is to be applied in the following way. It is to be dissloved in a small quantity of water and made into a thin paste, and then applied on the skin as white wash is applied to the walls of a building. When pure starch is not available common arrowroot will serve our purpose well. The patient suffering from this disease is to be very lightly clad. All redundant clothes are to be removed from the bed, which must be kept scrupulously clean, and copious diluents are to be given. Free ventilation of the room, or even an open place is to be preferred. There should be no unnecessary fittings in the room. It should be quite dry and free from moisture. Diet should be diluents and nothing more. It is commonly supposed that iron will produce constipation, but notwithstanding tinct: ferri muriat: being given evey 2 hours, and even every hour, the action of the bowels goes on as usual. When the disease is thoroughly checked and the patient is quite convalescent, then other remedies suitable to the system and constitution are to be prescribed.

OPHIOLOGY,
OR
A DESCRIPTION OF THE SNAKES OF INDIA.

By R. P. Banerjee, B.A., G.B.M.S.L.,
Pachbadra, Rajputana.

(*Continued from page 198, Vol. II.*)

EXPERIMENTS.

I. Viperine Snake venom or poison.—When forced out of the poison gland, is quite a different thing from that obtained by exciting the animal, and making it bite a piece of wood and discharge a certain part of the poison fluid in it in a fit of

anger. The poison obtained by the former method in 16 cases, I found when fresh, to be a thin glairy fluid, color varying from a lemon yellow to a deep chrome, alkaline or neutral to test paper, and gives a precipitate with weak solutions of acetate of lead or mercuric chloride, but redissolved in excess of the latter reagent, or in ammoniacal solution. If acids, say acetic or citric acid solution is added, a thick yellowish glutinous precipitate is obtained. This dries with difficulty into thin scales, not unlike some old specimens of santonine. When redissolved in distilled water after trituration, it is neutral to test paper and sparingly soluble in alkaline solutions again, but with weak solutions of potash, a soft glutinous mass formed and dissolved out in excess.

Again, that obtained by the latter method, by exciting or making the animal angry, is more viscid and ropy in consistency, variable to test paper, it is acid usually, but if the animal is much more excited or exhausted, it has a faintly acid or neutral reaction with test paper. This form of liquid is more soluble in water, and when a weak solution of mercuric chloride is added to it, a whitish yellow pricipitate falls to the bottom, leaving a faintly yellowish fluid behind. The precipitate when filtered out, and separated, dries up sooner into shining scales, readily soluble in ammoniacal solutions, distilled water, and alcohol. Acetic acid gives no reaction with this precipitate. Weak solution of potash dissolves it, and acids reprecipitate it, but the form is now very unlike to that of the original, and is now insoluble in water and alcohol, but readily taken up by ammoniacal solutions.

For the purpose of experiments, snake poison has been classified into the following forms:—

A. That pressed out during unexcited condition of the animal.

(1) Fresh, in a liquid state.

(2) Dried into scales, unmixed with any chemical reagent.

(3) Dissolved in alkaline solution.

(4) Precipitated from the solution (3) by acid, and the precipitate redissolved in alcohol alkaline solution.

(5) Precipitate dissolved in solution of potash.

B. That obtained during the excited condition of the animal.

(1) Fresh specimens in a liquid state.

(2) Dried into scales unmixed with any chemical reagent.

(3) Dissolved in alkaline solutions.

(4) Precipitated from above (3) and triturated in distilled water or alcohol.

(5) Precipitate dissolved in weak solution of potash.

(To be continued.)

A Mirror of Practice.

SURGERY AT THE RANCHI MUNICIPAL HOSPITAL AND DISPENSARY,

(Continued from Vol. II. Page 46.)

By Naresh Chandra Mittra, M.A., M.B.,

Case V.—Trephining the skull for removal of a depressed fragment. Sokro Uroan, male, *æt* 28, was sent by the Police for treatment of a wound of the head, said to have been caused by a spade (*kudali*). The patient stated that about 12 days previously he had a quarrel with his step-brother, who struck him with a spade over the left side of the head. On examination, it was found, there was a contused wound over the left frontal region of the scalp 1" by ½" by ¾"—it was in a fœtid condition. Beneath the wound, was a fracture of the left frontal bone, a fragment of it 1" by ¾" was found completely separated from the skull, and pressing upon the brain substance. There were no symptoms of brain pressure. The patient talked, and answered questions quite rationally. The face had a pinched and anxious appearance. The patient complained of sleeplessness at night, and pain at the seat of the fracture. He walked from his home to Ranchi, a distance of over 60 miles.

Treatment.—The wound was thoroughly washed with a solution of perchloide of mercury (1 in 2000), and a boracic poultice applied. As no brain symptoms had yet supervened, the advisability of allowing the fragment to remain undisturbed within the cranium was taken into consideration. To prevent any future trouble from this, I decided to remove it. In view of this, three days later, the patient was placed on the operating table. The wound was enlarged by a pair of scissors to facilitate the removal of the fragment, but, the opening in the skull was not sufficient for the depressed fragment to be delivered out, so the wound was further enlarged backwards, and the pericranium having been detached, a trephine was applied. A circular piece of the skull was then trephined off, and the depressed fragment was taken out after further manipulation. The brain substance was seen pulsating, There was slight oozing which stopped under pressure. The margins of the wound were then brought together by three horse hair stitches, leaving the centre open for escape of discharges; iodoform was blown inside the wound, which was then dressed antiseptically. The patient had sound sleep during the night. The temperature rose to 103° F, in the evening of the day after the operation.

Slight cerebral hernia was noticed through the wound next morning. The temperature kept above the normal for 5 days after the operation, but on the 6th day, the patient was quite free from fever. The hernia gradually went down, the discharges remained sweet all along, and the wound was fairly granulating and about to close up when, on the 27th day after the operation, he felt feverish, and passed some loose motions. The next day, he continued in the same state, but the original cerebral hernia faintly reappeared.

On the morning following, he was found in a semi-conscious state. On questioning, no answer could be elicited. The left extremeties were rather stiff. The cerebral hernia was bigger than before, and moreover, the cerebral substance protruded through the opening in the skull, and formed a big mass underneath the scalp. There were twitchings of the muscles of the left side of the face, and stiffness of the fingers of the left hand. The cerebral hernia was pulsating feebly. Next morning—Temperature 100°, pulse 120, respira-

tion 37. Both the arms and legs were stiff. The eyes were kept closed. No pulsation could be noticed in the cerebral hernia. The original wound was enlarged, the dura mater opened, but no strangulation was detected. The upper portion of the hernia was sliced off as it was quite dead. Half an hour after the operation, the patient sank into a state of complete unconsciousness.

The morning found him in a state of coma, with cold extremities and imperceptible pulse. Died at 4 P.M.

At the *post mortem* examination held 19 hours after death, an abscess was found of several week's standing, of the size of an orange, in the substance of the left lower frontal lobe. The abscess had burrowed downwards, and had burst at the base of the brain, causing purulent meningitis around the medulla oblongata and upper part of the spinal cord. There was general meningitis over the surface of the brain. The most striking feature of the case was, that the patient did not show any symptoms of pressure on the brain, caused by an abscess as big as an orange, and of 4 weeks duration.

Case VI.—A case of penetrating wound of the abdominal wall in an ascitic patient from an accidental fall.

Harbans, Hindu male, *æt* 40, was admitted on the morning of August 28th, 1892, suffering from the above, with complete rupture and protrusion of the small intestines. The previous history of the case was that he had been suffering from ascites for a long time, and had attended the dispensary a few weeks prior to the accident. As the distension had been fast increasing, he had been repeatedly advised to have the fluid drawn off by paracentesis, but he never consented to the operation. On the night of the 27th, the distension of the abdomen was at its highest pitch, and there was considerable dyspnœa. At 2 P.M., he got up from his bed to pass a motion, and while attempting to stand up after easing himself, he tumbled down on his abdomen. He felt great relief, and large quantities of fluid and blood escaped. He was picked up almost insensible and put to bed.

On admission, the patient had an anxious appearance, and the pulse was weak and frequent. He was in great agony, and had not had any sleep since the accident. About 2 feet of the small intestines were found coiled up on the exterior of the abdominal wall over the epigastrium. The lower portion of the omentum was visible on the exterior. There was a complete rupture of the small intestines, but no escape of fæcal matter. The visceral peritoneum over the protruded intestines was red and inflamed, and already particles of lymph were found deposited over the peritoneal surface. There was an incised wound 3 inches in length, from the ensiform cartilage downwards though the abdominal wall, through which the protrusion took place. Chloroform having been administered, the whole of the protruded gut was washed with tepid perchloride of mercury lotion, and the ruptured ends of the intestines were tightened round by two stout silk ligatures. The original wound of the abdominal wall was enlarged by a probe-pointed bistoury, then by steady pressure on both sides of the abdomen, large quantities ot ascitic fluid were evacuated. The coils of the intestines were then gradually replaced, excepting the ruptured ends, which were kept outside. The ligatures round the ruptured end, were then taken off, and the ends were stitched to the parietal peritoneum by passing five catgut sutures through its muscular coat and the peritoneum. The ruptured ends were kept outside to form two artificial anal apertures. A drainage tube was put in to facilitate discharge of the ascitic fluid, and the whole was dusted over with iodoform, and covered over with lint soaked in perchloride lotion. As the patient was restless after the operation, an hypodermic injection of *morphia* was given, but the patient never rallied from the shock. In the evening he vomited blood and expired shortly after.

(*To be continued*)

A CASE OF DIABETES COMPLICATED WITH CARBUNCLE, TREATED WITH ANTIPYRINE, WITH GOOD RESULTS,

By D. Robertson, W.M.O.,
Government House Dispensary,
Ootacamund.

V. J. M. aged 38 years:—A Hindu gentleman, vegetarian, bookseller and publisher—was treated for a large carbuncle, situated above and to the inner side of the right scapula. It was of an oval form, about 8 inches long from above downwards, and 4 inches across, well raised above the surrounding surface, hot, hard to the touch, with no feeling of fluctuation anywhere.

The patient informed me that before the carbuncle appeared he had enjoyed good health, and that it first came on as a small swelling 20 days previously, without any constitutional symptoms, and that it had rapidly increased in size within the last few days attended with fever.

The patient who was of the lymphatic temperament was moderately corpulent. He had lost several teeth, and those which remained were more or less loose. His temperature was 103·4°. The sp: gr. of his urine 1043, and it contained a large amount of sugar. He was surprised to discover the fact that he had been suffering from glycosuria.

Treatment.—The margins of the carbuncle were firmly strapped by sticking plaster, and a circular portion of its most prominent part was freely destroyed by caustic potash for an inch and a half in diameter. This caused a slough to form, which after separation, left a healthy granulating surface. The destroyed surface was freely dusted over with powdered camphor, and a large poultice applied to the carbuncle three times a day. After the removal of the slough, the application of camphor to the surface of the ulcer was continued till it healed, but the poultice was discontinued, dry lint and a pad taking its place.

No destruction of tissue occurred beyond that caused by the caustic potash. The size of the carbuncle began rapidly to diminish after the separation of the slough.

Internally, 20 grs of antipyrine were given every four hours for the first two days. On the third day it was reduced to 15 grs: four times a day. On the seventh it was still further

reduced to 10 grs three times a day. This amount was kept up till the patient was cured.

The temperature gradually came down from 103.4 to 100 on the seventh day. It reached its normal standard on the tenth day without any further rise.

The effect of antipyrine on the urine was also very marked. Its sp: gr: steadily decreased from 1043 to 1030 at the end of the first week—to 1024 at the end of the second, and to 1019 at the end of the third.

The patient made a steady recovery, and at the end of a few weeks he was so far convalescent as to attend his place of business for an hour daily

The diet of the patient was carefully attended to, all articles containing anything like sugar being avoided.

Repeated examinations of the urine while under treatment, and even afterwards, never revealed an entire absence of sugar.

This case came under treatment in June 1890, and the patient has been doing well ever since. I hear from him occasionally. He informs me that he now pays no attention to his diet, and that although his urine still contains sugar, that he keeps its sp: gr: down between 1020 to 1024, by taking antipyrine whenever it goes beyond 1030. On one occasion he informed me that he brought it down as low as 1016.

Remarks.—This is an interesting case, showing the probable good effects of antipyrin on a well marked case of glycosuria complicated with carbuncle, in keeping the disease in check.

It may however be said that the reduction in the quantity of sugar, as evidenced by the decreasing sp: gr., may be due to the careful dieting, and to the cure of the local condition, the carbuncle. This supposition might have been advanced as long as the patient was under treatment, but it is negatived by the fact that, although the patient pays no attention at present to his diet, he is still able to reduce the sp: gr: of his urine by antipyrine.

CHRONIC ENLARGEMENT OF THE RIGHT TONSIL, FROM IRRITATION OF AN UNERUPTED WISDOM TOOTH ON THE SAME SIDE,

By R. N. Ghosal, L.M.S.,
Calcutta.

The patient, a respectable Hindu youth, *æt*: 24, who had long been under a *Kaviraj* for the treatment of chronic enlargement of the right tonsil, which was now and then liable to acute attacks of inflammation after slight exposure, with accompanying glandular enlargement at the angle of the jaw, and for constipation with severe dyspepsia and symptoms of internal piles. He placed himself under my treatment some two months ago.

Previous history:—Before the attack, some 2 or 3 years ago, he was perfectly healthy. No history pointing towards any constitutional diathesis in the family.

Present history:—On careful examination of the parts, I found an abscess sac in the lower jaw on the right side, underneath which lay the last molar in an unerupted condition, and a corresponding last molar of the upper jaw also in the same condition; there being no abscess sac in the upper jaw. But the last molar in the upper jaw was cutting through the gum, with painful difficulty. The abscess sac I refer to, at first escaped my notice, accordingly, I had recourse to medicines and applications, such as caustics, iodine paint, aperient pills, gargles, &c, without removing the cause. These topical applications were continued for a month, giving a temporary relief. After a month I was fortunate enough to notice the sac in question, and without further delay, I freely opened it with the gum lancet, and cut away the whole piece to remove all obstruction. The upper one was similarly dealt with.

Remarks.—The patient is now alright. I have not heard of any acute attack following the opening of the sac, and he goes about freely in all weathers. This interesting case will no doubt teach the *Kavirajs*, that it is a mistake to be always guided by the pulse, and Homœpaths, to be guided by symptoms. A slight enlargement still remains, but it is absolutely painless.

CLINICAL NOTES.

North India Salt Revenue Hospital,
R. P. Banerjee, B.A., G.B.M.S.L.,
Pachbadra, Rajputana.

1. Lithotomy—I have had to treat 3 cases of stone in the bladder, and the following are brief notes of them:—

Case I.—Abba, *æt* 23 years, Hindoo male.

A shepherd by occupation, admitted on 12th January 1893. Stone existed seven years. Is very weak and exhausted. Stone very large, sound could not be passed. Stone felt distinctly *per anum*, and over the abdomen—Patient was in extreme agony, and early relief was imperative.

Treatment—Chloroform given, then suprapubic operation resorted to. The bladder was filled by injection of luke warm water. An incision two inches long in the direction of the linea alba made, the skin and subjacent tissues carefully separated, beginning just above the symphyses pubes and upwards. The bladder now felt and transfixed, and held in position by a thick catgut ligature and with a clean stroke of a knife opened to 1·5" in length. The contained fluid now syringed out and edges of the wound held upwards. Ordinary dressing forceps were introduced and stone was extracted. Bladder was then washed with very weak lotion of phenyle. The wound in the bladder was closed by catgut sutures and the skin wound by silk, and both held together by one or two turns of silver wire sutures. The temperature rose to 102·5° at 6 P.M., the same day, but fell to 99° in two days. Patient though very weak was making good recovery. On the 20th January 1893, at 10 A.M., he was seized with shivering and rigors, which were soon put down, but the same thing occurred on the 21st January 1893, and lasted 2 hours only. On the 22nd he had the rigor again and was now sinking in spite of all stimulation, and died quite exhausted at 6 P.M.—

Stone measured 4·5" by 5·2" and weighed 9·5 ounces. The lower and back part of the stone was rough and indentated, and when removing was found to be encysted in the mucous membrane, and was with difficulty detached.—*Stone kept for* reference.—

(*To be continued.*)

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The Medical Reporter.

CALCUTTA: AUGUST 1st, 1893.

The term heredity is now so commonly used as to have become a household word, though few who use it understand its potent significance, know the fixedness of the laws which in so subtle a way underlie and govern it in all its manifestations among men. Thus, many use it in a haphazard way, but it is well to understand clearly what heredity is, so far as we know and it is knowable. Heredity then, really means, that biological law, by virtue of which, all living beings tend to repeat themselves in their descendants; it is only in modern times that heredity, and still more recently criminal heredity, has come to be studied, to be regarded as a science, and the subject is well worthy of all the attention that may be given to it. It is a difficult subject to study, bristling with unseen and even untraceable psychical links, yet presenting startling results, which seem to spring from no cause. Some centuries ago the existance of the laws of heredity was vaguely surmised, and that was all, as we find only allusions thereto in some of the biographical writers. Plutarch and other writers are careful to relate the ancestry of the men and women who made themselves famous in the world.

Is it not curious that at the present time, when the advantages of good descent are so generally discredited, when Democrats and Radicals have made the doctrine that, one man is as good as another, extremely popular in Europe and America, that just at this time, we should have the fact demonstrated of the subtle influences of heredity and of the certainty of the effects of these influences on progeny? Science steps in and exhibits the falsehood of the doctrine of mental and psychical equality—of the political dogma "of one man being as good as another," for science proves that there is, after all, a great deal in a man's ancestry as a factor in determining his moral character, his intellectual capacity, and his physical organization. It is still true, therefore, despite the loud boasting of Democrats and Radicals, that a silk purse cannot be made out of a sow's ear.

The researches of Mr. Francis Galton in England, of M. Theodule Ribot in France, and of Professor Cesare Lombroso in Italy, have resulted in the collection and classification of a mass of facts bearing on the question; and the inquiries which Mr. Galton began to institute three and twenty years ago, and which he has continued ever since, have been especially fruitful of valuable results; results, readily intelligible to even those who have had no scientific education.

Let us state it as a general proposition, that a man's natural abilities are derived by inheritance, and under exactly the same limitations as are the form and physical features of the whole organic world; put thus, we find we have now a large and compact mass of evidence, the result of the labors of such men as those mentioned above, in support of such a proposition, and so far as to justify its acceptance as the statement of an important biological law. Some of the most distinguished of European specialists receive it as authoritative.

The practical working in human life of this biological law is remarkable, and also the paucity in numbers of men who are brilliantly endowed mentally, when compared with the mass of human life, for it is estimated, and we believe correctly, that only 250 men in every million become eminent, an infinitesmal percentage indeed; in fact nineteen-twentieths of the human race may be classed as mediocrities, safe, useful people, who by reason of the smallness of their mental endowments walk in grooves, and help to keep up that routine of living which we call society; this preponderating majority of ordinary common-place people is said to be invariable, for the facts that commanding ability is rare, and that mediocrity is so great is no accident, it happens from the very nature of things, it is a necessity from the impliability of the laws of heredity.

Scientific research on the basis of the impliability of the laws of heredity, teaches us, that as there are so many murderers, so many idiots, so many thieves per million, so are there, so many men of conspicuous eminence. This matter of ratio, as we have said, appears stable. We are farther forced by investigation to the conclusion that eminently gifted men are raised as much above mediocrity as idiots are depressed below it; this fact illustrates in a remarkable way the great difference of intellectual gifts between man and man. Some students of this subject are so surprised by the greatness of these differences that they do not hesitate to say that many dogs are superior in respect of memory and powers of reason to many men, and those of us who have studied both dogs and the lesser gifted of men carefully, will not dispute the statement.

Take any body of men from any of the learned professions, say law, which will suit our purpose very well, we can have a curious fact elicited by research as has been already done, that there is a regular ratio of increase of ability generation by generation, till it reaches its culmination, and then a similar proportionate decrease in the generations that follow. Why is this so? Why is it that when mental ability reaches by heredity its greatest development that there is immediate retrogression shown by descendants? It is assumed that in the first case the marriages have been consentient to its production, in the latter have been incapable of preserving it, and this is as far as we can go at present towards illustrating this

fact. It has been observed that after the third generation, or three dilutions of blood, the descendants of learned and able men sink to mediocrity, they appear quite incapable of rising to eminence.

Another fact elicited by the student in the psycho-physical school of recent time, is that what we call instincts, are hereditary, if we can really differentiate these from intelligence, which appears doubtful, and instincts which originally were variable become stable in course of time, this stability shows that these instincts have been conserved and accumulated by the subtle laws governing heredity.

Apart from human beings, certain animals show as a result of heredity the conserving and accumulating of instincts, more particulary dogs do so, take for instance the dogs of Mount St. Bernard, with their present developed steady instincts for saving human life. There are innumerable instances on record of dogs with inherited instincts, without any specific training whatever, knowing what tactics to pursue under certain circumstances.

Descending to physical faculties, of human beings, we perceive this law of heredity prevalent also, especially in the perceptive faculties which are more particularly susceptible of transmission from parent to child; for instance, keenness of vision, is an essential requisite for the nomadic and savage races of man, and has, therefore, to be cultivated as a matter of necessity; this keenness becomes most exquisite by inheritance; this fact has been authenticated by reputable travellers, and by scientific men from personal investigation. The perfection of this sense of sight among the Mongolians on the great plains of Tartary is remarkable; it is said, on good authority, that they can perceive the satellites of Jupiter with the naked eye.

Acuteness of hearing is likewise transmissable as a hereditary characteristic; and this is true of deafness also; extreme delicacy of the sense of hearing is almost always the result of transmission from parent to child. Extreme delicacy of hearing is a necessity for musicians, who, if they are to be masters of their art, must have an attuned ear. The celebrated Andrea Amato for instance, the famous violinist of Cremona, his two sons and his grandson inherited his acuteness of hearing; the lives of musicians furnish us with many examples. The father and grandfather of Beethoven were both exceptionally good singers. Bellini was the son of a musician, his grandfather was also a musician. Mozart's father was chapel master to the Archbishop of Salzburg, how wonderfully the inherited talent was developed in this great composer; Mozart's sister, and his two sons, were also gifted with musical talent. The most wonderful instance on record, however, of transmission by inheritance of physical attributes, is that of the Bach family. This family in a period extending from 1550 to 1800, during eight generations, produced so many as 120 musicians, and of these, 29 attained to eminence in their profession. The Bach family in this lengthened period nearly always intermarried with musicians, and this would explain the persistence of this phenomenon beyond the usual limit of hereditary descent, the fourth generation, by intermarrying with musicians they kept up the strain in the blood, proving the doctrine, that when marriages are consentient, hereditary characteristics are continued.

Religious gifts also, strange as it may appear, are said by investigators of the matter to be hereditary, and that frequently they are derived from the maternal side, and there seems to be good ground for the caustic proverb that, the "parson's son is the devil's grandson," the cause being it is believed, that the parents are naturally possessed of high moral characters combined with instability of disposition, which peculiarities are however in no way correlated, it thus often happens that the child inherits only one trait of character and not the other. Should he be the recipient of moral gifts without great instability of character, he will not feel the need of extreme piety, on the other hand, he will very likely disgrace his name, if he inherits great instability without morality.

The hereditary transmission of evil propensities, of vices is an assured fact; morbid inclinations and malignant passions are transmittable like intelligence, to the third and fourth generation, when the inheritors very frequently die out, owing probably to the cumulation of evil within them, these, "by a law which is unsearchable, rid themselves," so says most truly, a writer in one of the apocryphal books of the Old Testament when speaking of those whose habits have become inveterably corrupt. By these subtle but impliable laws of heredity, the drunkard's children are drunkards, while besides, they often suffer from a general or partial atrophy of the brain; in the next generation or so of the same family the children may be insane or idiots, and thus the family ceases. This is the terrible law of criminal heritage, and it being thus invariably so, should not our legislators treat the morally leprous as the physically leprous were treated by the Hebraic law, and as they are treated by some modern nations, segregate the morally leprous and prevent them from propagating their species, by prohibiting them from entering into marital relationships. This would really be a wise and humane way of dealing with them.

Modern French psychologists, such as doctor Despine and Labarde, state, that crime is much more closely allied to mental and moral insanity than is generally believed, and these men are experts in the matter, having made morbid psychology their special study. Their testimony shows that after examining so large a number as 5,432 criminals, they found one in every nine intellectually unsound.

Now, is not such valuable testimony as these medical men offer, sufficient to cause every civilised community to look more closely into the matter of preventing the propagation of crime? Should not such men and women, who are really more dangerous to society than mere imbeciles, be segregated from the rest of the community, and be prevented from multiplying and producing a race of criminals? We most assuredly think that this is the right course to follow; for we must consider that men and women of this stamp are a standing menace to human life, property, law, and order. Here is

the family history of one of these social rebels, a Frenchman, John Chretiên, this man had three sons, Pierre, Thomas, and Jean Baptiste, all criminals. Pierre's son Jean Francois, was condemned to hard labor for life, on a charge of assasination and robbery. Thomas had two sons, Francois, convicted of assasination, and Martin, executed for murder. Martin's son was transported to Cayenne where he died. Jean Baptiste's son, also Jean Francois, married a wife from a family of incendiaries by whom he had seven children. The first of these, also named Jean Francois was an incorrigible thief and died in prison. The second, Benoist, fell from the roof of a house while engaged in a burglary and was killed. Clain who was the third was also an incorrigible thief, and died young, at the age of 25. The fourth child Marie Reine was imprisoned for robbery and died in prison; the career and end of Marie-Rose, the fifth, was similar. Victor was an habitual criminal but how his life ended is not known. Victoria, the last of the seven children married, and does not appear herself to have been criminal, her son, however, inherited the criminal instincts of her family and was condemned to death for murder. This is truly an appalling family history and affords very strong evidence of the reality and impliability of the laws of criminal heredity.

Now, should not such men as Jean Chretiên be shut up? We should not then have such painful illustrations, as his family displays, of what a fearful thing criminal heritage is. Facts like these which the family history of this criminal manifest, denote to our mind, the impressive importance which attaches to these laws of criminal heredity, in their social and political as well as in their individual bearings and consequences. They demonstrate the necessity of a careful study of them, by parents, by educationists, by medical men, by legislators, and by the executive who administer the laws. These facts also offer a scientific explanation of that stern warning and truth, of the sins of the fathers, being visited upon the children, unto the third and fourth generation.

In our last two issues we dealt with the subjects of sea-voyages and sea-bathing respectively, and while engaged in considering these subjects, we were awakened to the fact that India has no recognised sea-side resort. The therapeutic value of sea-bathing and sea-air in certain diseased conditions is acknowledged, notably in that known as scrofula, which exists amongst certain classes of the community in India to a very large extent. In recent years India has made great advances in the construction of hospitals, and in its medical and sanitary arrangements; lunatic asylums, and now leper asylums have been inaugurated, and to some extent nationalized. Sanitaria have been erected at our hill stations to give sufferers from the plains a chance of recuperating their enfeebled systems in the pure mountain air, but so far as we know, nothing has been done to enable patients requiring a short residence at the sea-side, to obtain it under suitable condtions.

We believe at Karachi, and at Bombay, at Colaba-Point, small sanitaria exist for the convenience of certain military patients, but of course these would be inaccessible to the general public, and are not quite what we wish to discuss in this paper. For both of these institutions are integral portions of large and populous cities, and have not the healthy isolation and surroundings of what we would desire for a sea-side resort or sanitarium. There must be parts of our coasts, within easy access by railway or steamer, which would meet all the requirements of a site for a sanitarium suitable both for bathers and those who need sea-air. The scenery and surroundings should be pleasant to contemplate, and the ocean view sufficient. A short stay at such a place to many a poor invalid, whose sunken eye, labored breathing, and weakly body mark him out as death's victim, would here soon recover his vitality and energy. Europeans at home know and appreciate the advantages to be gained by a few weeks residence on the sea coast, for at certain seasons of the year, they flock to the different sea-side resorts in thousands, and after a short stay, return home again in better health and with renewed vigor.

It is unnecessary for us at present to mention more than that such a sea-side resort is an actual want, both for invalids and people in search of relaxation of mind in the vicinity of the sea, we mean that class of persons on whom sea-air has a tonic influence, who would go to the sea at certain intervals, and would form the bulk of the population of such a place at certain seasons. We think we only require some of our influential physicians to consider this matter over, and to recommend residence at the sea-side, where it is actually necessary, instead of sending their patients up to the hill stations in deference to their wishes, and in accordance with the fashion of the day. Our medical men should speak out plainly and honestly, and recommend and demand a residence at the sea-side, when their patient's condition requires this particular form of treatment.

The requirements of such a place would soon be met, and would grow with it, and we consider it would not be long before India would have a miniature Brighton for its people. Here, a sanitarium or hospital might be erected for the more serious cases, and a home for children sent for the benefits to be derived from sea-side residence. At the present day, our medical men have only two alternatives in cases where their patients require a change; they must either send them to the hill stations, or recommend a change to Europe. The first of these must be positively harmful in many cases, and the latter unnecessary; for, many of the cases sent to Europe derive all the benefit they receive from the sea-air on the voyage home and back again.

What appears to be a suitable site for a sanitarium in the vicinity of the sea, has lately been discovered near the seaport of Barwas, by Mr. F. J. E. Spring, Engineer-in-Chief of the East Coast Railway. This is the Mahendro Giri Hill, a short description of which appeared in our issue for last month. The elevation of this place is about 5,000 ft, and it appears that, though in full view of the sea, the air is dry and crisp, and a steady breeze blows in from the sea for nearly half the year.

This would no doubt suit those requiring sea-air only, but since it appears to be only a distance of 16 miles from this to the sea, a connection between the shore and the hill would soon spring up, if either became popular as a resort.

This mountainous ridge being close to the sea is a distinct advantage, as it gives the physician the choice of several climates; and, if accomodation could be provided at different levels, and occupied by the different establishments for patients, invalids, and health-seekers, both places would be connected by a good road and a chain of institutions and hotels, from the sea-shore to the mountain top.

We have heard that, a company once tried to reclaim enough of land on Saugor Island, to establish a watering place for the people of Calcutta. We think the few hints we have received in regard to Mahendro Giri might be considered over profitably, both to themselves and the public, by any one who cares to speculate in matters of this kind.

Puri has been frequently to our knowledge resorted to, by people from Lower Bengal requiring a few weeks residence at the sea-side, and if it were not that the place is thronged with pilgrims every now and then, would make a very desirable watering place for Calcutta folk, and those situated in the surrounding Districts. Cholera and the pilgrims are, however, unfortunately too closely allied for Puri ever becoming a popular resort, and its fine sandy beach and sea breeze may more safely be left for the exclusive use of the Hindoo devotees with their insanitary propensities, who frequent the place. We invite opinions upon the subject of a sea-side resort for India, and would be glad to hear from any one who has given this subject his attention.

Medical News Letters.

LONDON LETTER.

[From our own Correspondent.]

Actions for Libel brought against Medical Papers.

The good work which the medical papers effect in exposing quacks, is shewn by the number of libel actions with which they are at present threatened. Harness' belts are naturally the cause of one of them, and in spite of his recent experience in law courts, when he had to pay £1,000 damages, and costs, to the *Electrical Review*, Harness has brought an action against the *British Medical Journal*. I understand however that he has dropped the case, and paid the costs.

Two actions are also pending, brought by Keeley's Gold Cure for Intemperance, against the *Lancet* and the *Medical Press and Circular*, unfortunately in this instance the secret remedy is run by a duly qualified American Doctor, although of course he is not registered in England. A third action is being brought against the *Medical Press and Circular* by the Proprietors of that most cruel of all quack remedies, namely, Count Mattei's so called Cancer Cure. This remedy is so cruel, because, patients may use it before submitting to an operation, and when they find its action is *nil*, the time has passed when an operation holds out a good prospect of relief. It is to be hoped that these papers will not in any way suffer for speaking the truth about these worthless remedies; because, it is mainly by so doing that the profession are supplied with means to persuade their patients not to be led away by specious advertisements.

Royal College of Surgeons.

This year there are four vacancies on the Council of the Royal College of Surgeons, and about 12 candidates for this honour are in the field. The Association of Fellows of the College is making great efforts to secure the election of Fellows, who sympathize with its objects. This Association has recently sent a circular round to all the Fellows, shewing the good work, which has been done by its agency up to the present. Among the reforms at the College may be mentioned, the discontinuance of the payments of a fee on election by Members of the Council, and by Members of the Court of Examiners, the appointment of a treasurer, and of a professional auditor, the holding of an annual general meeting of Fellows and Members at which a Report from the Council should be presented, and discussed, the suspension of the confirmed minutes of Council Meetings in the Hall of the College, etc. Recently too, a common room has been provided for Fellows and Members, and the Council having obtained legal sanction to calling a meeting of Fellows separate to the Members, last year called such a meeting. The Association now wishes that the Fellows should have additional privileges, such as the election of the President, and regular consultation by the Council on all important matters. The candidates whom they are supporting are Mr. Macnamara of the Westminster Hospital, Mr. Mayo-Robson of Leeds, and Mr. Norton of St. Mary's Hospital.

Recent Lectures.

Professor Bernard Pitts delivered this week a series of three lectures at the Royal College of Surgeons on the surgery of the air passages in children. Mr. Pitts's position as Surgeon to the Hospital for sick children, and also to St. Thomas' Hospital, has given him ample material for these lectures. Although a strong advocate for tracheotomy in diphtheria, he admitted that the results of intubation of the larynx, by means of O'Dwyer's tubes, were almost as satisfactory. Taking statistics for the last ten years of both the Hospital for sick children, and of St. Thomas' Hospital, he found the percentage of recoveries after tracheotomy for diphtheria in children under 12 years of age was about 27 °/₀ and that the number of cases was largely on the increase. This percentage of recoveries at first sight appears very low, but it must be remembered that the operation is often not done till life is almost extinct, and very little chance remains of saving the child's life. One cause of the increase in the number of cases of diphtheria is that, the disease is communicated from child to child, in the Board School, for the poor mothers pay very little attention to the fact of a child having a sore throat, and allow such children to mix with others at school, and elsewhere. Mr. Pitts also mentioned some curious after-effects of tracheotomy, on account of which the tube could not be left out. Two cases

were cited where the difficulty consisted in a kinking of the trachea, and the formation of a mass of fibrous tissue about the tracheal opening. They were cured by thyrotomy, and removal of the cicatricial tissue, with subsequent treatment with O'Dwyer's tubes. Mr. Pitts also strongly urged employment of nasal feeding after the operation.

Mr. H. Morris on Kidney Surgery.

At the West London Medico-chirurgical Society, Mr. Henry Morris delivered the Cavendish Lecture on the above subject. Although there was nothing actually new in the lecture, it was full of interesting matter. He strongly urged the operation of nephroraphy in cases of floating kidney, and had been very satisfied with the results. In cases of nephrotomy for suspected calculus, he recommended that the kidney substance should be freely opened along its convex border, as the way in which a stone was least likely to be missed. He did not approve of opening the pelvis of the kidney, and stated that he had never known the convalescence of a case shortened by stitching up the opening after the extraction of the stone. This latter statement, is contrary to the opinion of many other surgeons of experience in these matters, and I myself have found that after extraction of a large stone from the pelvis of the kidney, a double row of sutures prevented any urine escaping by the wound, which healed up by first intention. Mr. Morris also expressed an unfavourable opinion about the supra-pelvic method of opening the bladder, the operation however at the present time holds the first place with most surgeons, in fact perineal cystotomy is now quite a rare operation.

Transactions of Medical Societies.

THE CALCUTTA MEDICAL SOCIETY.

The July meeting of the Society was held at the Medical College, on Wednesday, the 12th July, at 6 P.M. The following business was previously announced—1. Cases and Specimens; 2. A case of Ovariotomy, By Dr. Surbadhicary; 3. Discussion on Diabetes.

Dr. Green shewed a specimen of imperforate anus with absence of rectum in a male child, who was brought into the Eden Hospital, on the 2nd of June. The abdomen was found to be much distended on admission, and on examination, it was discovered that the child had been unsuccessfully operated on by a native medical practitioner, who evidently had used a fine trocar. As the symptoms were urgent, an operation was performed in the left groin. The peritoneum was found to be thickened and contained yellow serum. The gut was of a bluish tint. An artificial anus was made by connecting the protruding gut to the incision by a double row of sutures. The wound was dressed with iodoform, vaseline, and antiseptic tow. On the 3rd evening, the temp: rose to 100·4°F, the discharges became yellow and very frequent, and the child expired next morning.

The *post mortem* examination showed peritonitis, intestines much congested, and the peritoneal cavity contained a large amount of serous fluid. The sigmoid flexure was found to end in a *cul de sac*, the rectum was continued in the shape of a fibrous cord, and it was through this end, which terminated at the posterior part of the perineum, through which the trocar had been passed previous to the child's admission into hospital, and which was the starting point of the peritonitis.

Continuing—Dr. Green said—This case illustrates the danger of using a trocar, and it shews the necessity of the knife being used in all cases. If there is no protrusion at the perineum—wait, incise and search for the gut, if the case is urgent, then it must be relieved through the groin.

The following peculiarities were noticed in this case at the *post mortem* examination. The left hand had six digits, the penis deformed, slight hypospadias, corpus spongiosum defective, all the thoracic and abdominal visceræ were transposed, the anus was absent, sigmoid flexure towards right side, and practically there was no descending colon. These peculiarities are supposed to be due to disease of the ovum during very early infantile life.

Dr. Joubert.—I had a similar case to this one in the Eden Hospital, and I did a lumbar-colotomy. There was no escape of meconium. The child died next morning. The *post mortem* shewed that the small intestines were represented by fibrous cords, the large intestines were obliterated. Those cases, therefore, which are not relieved by operation, are not necessarily failures, but they fail owing to the conditions which exist, as in the case just detailed. This child, as well as the one referred to by Dr. Green, were both bound to die.

Dr. Bose.—He referred to a very similar case under the care of Dr. O'Brien at Darjeeling. These transpositions of the visceræ are very difficult to explain.

The next specimen shewn to the Society was a very large fibrous tumour removed by Dr. Shome. The patient was doing well.

Dr. Joubert then read the following notes of a case from the Eden Hospital. The subject, a Marwari woman, was admitted on the 1st of this month, and was sent for admission by our President, as a case of ascites and ovarian tumour, with the following history.—Age 44, married at 32, has had no children, and never aborted. Menses were regular and painless, lasting 4 to 5 days, the last menstruation was five years ago, and since then has been very scanty. Thirteen years ago she noticed a small swelling which gradually increased in size. A native practitioner applied some local caustics, which left ugly sores and cicatrices on the abdomen. This was done in her native village, and she came to Calcutta about 2 years ago, and was tapped. Eighteen months ago she was again tapped, and the operation was performed a third time eighteen days before admission. When I saw her, the abdomen was almost collapsed. On palpation, however, I found a large multilobular, nodulated tumour, having all the appearances of an ovarian cyst. The abdominal measurements were from ensiform cartilage to the umbilicus 15 inches, and from umbilicus to pubes 5 inches. This difference in these two measurements is always due to peritoneal cases, and not to cysts, they are just the opposite in cysts, or the

measurements are about the same. The circumference was from 36 to 40 inches. The abdomen was flat in front, pouched at the sides and pubes, and wabbling when disturbed by the hand. There was resonance in the epigastric region, and on pressure the lax abdominal walls were slightly resonant. A moving body could be felt, but could not be sharply defined. A small umbilical hernia was also present, which returned very easily, this was thought to contain omentum, and the ascitic fluid prevented the contents being recognised. On vaginal examination the *culs* were quite clear, there was a slight resistance in the cervix as in nulliparæ, the external os could not be defined.

She was placed under chloroform on the 1st of July. I previously introduced a large trocar into the abdomen. I took this precaution, from the experience I gained just a few days before in a case of ovarian tumour with ascites. I found after exploring there were two healthy ovaries, 336 ounces of fluid were removed, and I found a large multilobular tumour. A median incision was made below the umbilicus, the abdominal walls were found quite matted, probably due to the result of the former treatment and tapping. There was a large amount of cicatricial tissue and an entire absence of fat, the peritoneum was much thickened, The incision exposed a smooth shining surface, but it was redder than what is usually presented by an ovarian cyst. The mass was an enormous size. There was no bleeding behind the puncture of the cyst. It extended from the pelvis to the diaphragm, and also occupied both flanks. Below, it grew from the fundus of the uterus. The ovaries and tubes were healthy. The protrusion through umbilicus was from the mass of the tumour itself, which had a great number of adhesions. On exploring I found numerous large vessels on the left side, the sensation imparted to the hand was quite different to that of a tumour containing fluid, it was semi-elastic, and not hard like an ordinary fibroid. I had a great deal of difficulty in removing this tumour, and had to extend the incision for 2 or 3 inches, when the adhesions were detached, and the tumour removed. The vessels I have referred to on the left side, were large and some as thick as a lead pencil. These entered the upper left part of the tumour from the omentum, and were unsupported. I had to use a great deal of care in tying them one by one, and cutting them, also the omental adhesions, which left the tumour now attached to the uterus alone. The point of difference in this one from other fibroid tumours was that, the tubes entered the uterus at the normal level, *i.e.*, at about the brim of the pelvis, and the tumour grew from between the tubes. I cut away the mass about two inches above. The ovaries were small and shrivelled, to remove them was to increase the size of the pedicle. The tubes were clamped to the sides of the uterus, and the tissues were cut away two inches above. Another difficulty now presented itself, regarding the absolute necessity of cutting these off around the neck. I did it according to Dr. Bantock's method, which is as follows—A small nick is made and a needle with gut worked in, the peritoneum is picked up and brought to the centre and back of uterus on to the other side, *i.e.*, the peritoneum; then bring them together and the ligature is made. Catgut sutures are then applied for 1½ inches. I had to dissect off the peritoneum 3 inches above the bottom end of wound to get a sufficient hollow round the stump, and the rest of the wound was treated in the usual way. The stump was dressed with perchloride of iron and iodised cotton.

The tumour weighed 16lbs. It had a very singular appearance, consisted of several large masses and smaller ones. On being cut, it was vascular—in the centre of these masses were hard nodules, and arround it was soft matter like that of a glioma, but these are single and not multiple. I have met with another case like this, but it was single and not multiple as in this case. The patient is now quite well and the stump is dry. The temperature once went up to 100°, but has been between 98° and 99° almost all the while, and she is now safe.

Dr. Dass then shewed specimens of a quadruple brith. They were all very small. There were 2 placentas and 2 cords.

Dr. M. N. Chuckerbutty shewed a case which had come to the Mayo Hospital for treatment, suffering from fever and great emaciation. On examination the spleen was found on the right side, and it looked like a liver, the heart was also displaced towards the right side, and there are reasons to believe that some of the other organs also are similarly displaced.

Dr. Chuckerbutty shewed another case of stone in the bladder, in a little native girl, which was crushed yesterday at a sitting of ten minutes, it weighed 50 grains. She recoverd without any bad symptoms. The stone and fragments were exhibited.

Dr. Surbadhicary then brought forward a case of injury in the case of a native caused by machinery. The patient a middle aged man is employed in the Dharamtolla Government type foundry. His arm was caught by the strap which works the fly-wheel, and he was swung round. The whole of his fingers, hand, forearm and part of the arm were simply crushed into a puply mass. He was brought into the Chandni Hospital in an almost collapsed condition, when an amputation was performed, removing the whole of the forearm very near to the head of the humerus. During the operation the respiration stopped for 6 or 7 minutes, and he appeared as if dead. A few of his ribs also were broken over the præcordia. Physical examination revealed that the left pleura and pericardium contained blood. The physical signs were not very distinct over the præcordia, but the persistent pulse of 130 to 140, with dyspnœa, indicated this. I could not make out the heart sounds owing to the effusion. He had very little fever throughout. All the pleural effusion has disappeared, and only a few dull patches can be detected here and there. The points of interest are the very extensive injury by the accident, which in itself was sufficient to kill the man, the effusion, the operation, and the effects of the chloroform—yet he has pulled through it all.

Dr. Surbadhicary then read his paper on—A case of Ovariotomy—A Hindu woman, aged 36, has never had any children, resident of Bagh Bazar. Felt a lump sometime ago in the pelvis, but could not define the particular spot in which she first felt it. Had shooting pains, and latterly her appetite fell off. Micturition was more frequent than usual, due to

pressure from rapid growth of the tumour. In a short time it occupied the whole of the abdomen, which was oval in shape, and she looked like a woman at full term; but the very slow growth, and the length of time it took to attain its present size, were against such a suspicion.

On examination, the tumour was found to the right of the median line, and on the left of the umbilicus a narrow margin of dullness could be detected. It was not affected by respiration or movement, and there was no thrill. It was diagnosed as a fibroid. To the sound the uterus itself was normal, the liver was pushed up, the spleen was in the normal position. I diagnosed it as a right ovarion tumour, and after a weeks preparation, she was placed under chloroform for operation. The skin and muscles were rapidly cut through and dissected till the peritoneum was reached, the incision descended to 4 inches from the pubes. Here, I would mention that, I departed from the usual custom of making the incision into the peritoneum at the same level as the superficial opening. I made it 1½ inches away. I did this to obviate the peritoneum being implicated in any suppuration which might occur. In 2 out of 7 cases suppuration did occur. If the opening is made away, the peritoneum unites before the suppuration takes place, and is practically closed. At this stage large veins had to be divided and tied, the omentum was pushed aside and adhesions separated. The tumour as was now seen, was much bigger than what the first examination revealed, the incision was now increased to 7½ inches, and the trocar introduced which gave exit to 2½ seers of fluid. Two other punctures were made, and the quantity of fluid removed from them was 2 seers. The intestines were kept out of the way with warm towels. I did not use sponges. The clots were turned out. At the back of the tumour the small intestines were found glued to it low down, and I found it very difficult to dissect them away. At this stage I almost gave up the operation in despair, but carefully with my finger nails, I managed to detach the coils. The left ovary was healthy. After this there was no further trouble. The rest of the operation was concluded in the usual way. The drainage tube for the stump was brought out at the lower angle of the exteral wound, which was replaced by a glass tube. The external wound was then closed up with stitches.

The operation lasted 2½ hours. The quantity of chloroform used was 3 ozs. The patient recovered from chloroform without any untoward symptoms. Temperature 98·2 to 99·2, next day 99·2 to 100·4. On the fourth day the temperature fell. The discharge from the tube was sero-sanguineous, and a large tube was introduced into the peritoneal cavity and washed out with warm boracic lotion, after which, the temperature fell to normal. The flushing was continued till the 9th day, being terminated with a Diuelafoy's aspirator. On the 19th day, the temperature again rose, a few sloughs came away; the temperature again fell to normal, and she progressed uninterruptedly. The only part now remaining unhealed is the lowest angle of the incision, which is occupied by a thin rubber tube, and which will be completely healed in a few days.

The diet consisted of milk, soup, chappaties and rice. She has been 23 days in hospital. The medicines used were 2 doses of liquor morphia, 2 doses of brandy, 2 doses of quinine, boracic lotion, Condy's fluid, and iodoform.

Remarks.—The size of the tumour is interesting. It was ½ as big again as a Rugby football, and weighed 16lbs. A tumour of this kind weighing 20lbs was a curiosity. The length of the incision made was 7¼ inches. Books recommend an incision 3 to 4 inches long. I advise a longer incision. The nature of the tumour was very interesting, it contained hair, sebaceous material, a quantity of fibrinous clots, and coffee-ground material. The edges of the omentum were pulled up and fixed to the peritoneal incision. The difference in lines between the superficial incision and that into the peritoneum, flushing of the peritoneum, which is more useful than sponging, are all points to which I wish to draw your particular attention. —My thanks are due to Dr. M. N. Sen who administered chloroform without a single hitch for 2½ hours, and to Dr. R. G. Chowdry who assisted me througout the operation. Dr. Surbadhicary concluded his paper amidst much applause.

Dr. Joubert.—Dr. Surbadhicary mentioned that on the fourth day the flushing was done with boracic lotion. I think the inflammatory material around the wound shuts off the peritoneal cavity.

Dr. Surbadhicary.—It was done with a long tube.

Dr. Joubert.—And then the stump sloughed beyond the injection. I think we have to come to the conclusion that drainage should be avoided unless necessary. In a case where I had the opinion of Sir Spencer Wells who was present at the operation some purulent matter escaped into the abdomen, I was about to wash it out when he told me not to clean it, as I had already sufficiently done so. No drainage tube was used, and the case did well. When a large number of connections are to be separated in and around Douglas' pouch, and when these are carefully cleared off, there is no fear of hæmorrhage, and pressure would be sufficient to stop it if any occurred. If I had a case I would not use the drainage tube. I hope the comments I have made will be excused—Again, the ligature used was cutgut, unless we use chromicised catgut which takes a long while to disappear, these operations are very dangerous. Dr. Joubert then referred to a case reported by a Surgeon in the Indian Service, and published in a recent issue of the *Indian Medical Gazette*, where such an accident had occurred. The ordinary catgut he said was much too soft, and slipped off. When we use chromicised catgut, or china silk—we have adhesions soon covering, and they disappear in a few months. I would advise my young freind not to trust to catgut—silk; China twist, is the best material. Then again, cutting the omentum was adding to the risks of the operation. If it was pushed up by a warm towel it would have slipped backwards—and lastly, the edges of the incision—it is not necessary to be afraid of suppuration, in the fatty tissue. I have operated on 100 cases, and have had suppuration in only two, the material I have used is wire, and silk occasionally. The use of catgut may be correct theoretically, but in practice there are dangers attached to its use.

Dr. Surbadhicary.—He said with due deference to the remarks which had been expressed by Dr. Joubert, whose advice he felt was friendly, yet, he added, the records of the Mayo Hospital shewed that, there were no accidents from the use of catgut.

Dr. Joubert.—But they will come. The best authorities of the present day recommend silk.

The President congratulated Dr. Surbadhicary on the successful result of his operation. He was very pleased to see so young a graduate undertaking such a risky operation, and said that it reflected great credit on him and his teachers.

Owing to the lateness of the hour, the discussion on diabetes was postponed till the next meeting, when the members dispersed.

BURMAH BRANCH OF THE BRITISH MEDICAL ASSOCIATION.*

At the thirteenth regular meeting of the Burmah Branch of the British Medical Association, the Secretary read a letter from Surgeon-Captain C. L. Williams of Yaméthin, with a request to show to the Branch, a single calculus removed from beneath the prepuce of a Burman, aged 50. There was history of a gonorrhœa 9 months ago: since that he has had a gradually increasing phimosis which became so tight that he sought relief in Hospital. On admission a director could with great difficulty be introduced and on slitting the prepuce, the calculus presented; the mucous membrane of prepuce was very much thickened and indurated and adherent to the corona of the glans. These cases of course, are not uncommon, but this has a double interest, inasmuch as the history is a short one, and inasmuch as further the presence and distribution of the calculus diatheses in Upper Burma cannot yet possibly have been fully worked out. There was no evidence of stone elsewhere. He has recovered perfectly, as backward pressure seems not to have been established.

The Secretary Mr. N. N. Parakh showed a Chinaman with congenital closure of the anterior nares. While an infant he was operated on one side. It was difficult to say whether or not it was the result of hereditary syphilis. The man bore marks of acquired syphilis. An operation was not deemed necessary.

Dr. T. F. Pedley related a fatal case of Hydrophobia in a boy of 12 years of age.

Surgeon-Major O. Baker then read notes of a case of Acute Exfoliative Dermatitis.

On the 31st May last, I was called to see a Mahomedan lady, in consequence of an eruption on her body which had appeared on the preceding day.

The entire surface of the body was affected, with the exception of the palms of the hands and soles of the feet. The features of the eruption were not at that time very well-defined, and all that could be made out was that the body was covered, thickly on the upper half, sparsely on the lower, with a patchy, irregularly-papular erythema, attended by considerable irrtation.

The patient felt ill, her pulse was quickened, and she had quite lost her appetite.

Suspecting one of the exanthema, I took her temperature, but found this only slightly above the normal.

On the next day, and the day following that, it was noticed the patches had, for the most part, given place to coalescence; that the affected skin was thickend, the ears swollen and furfuraceous, and the eyelids puffy.

Later on, flattened pustules, irregular in outline, appeared, the contents of which were easily liberated: as these burst, the eruption assumed the appearance of an acute, moist eczema, a condition which was especially well-marked over the breasts and in the flexures of the axillæ and elbows.

On the 6th June, being eight days from the first appearance of the rash, the oozing was observed to have, here and there, ceased, and the eruption in these situations, to be drying up; but the exudation generally, especially in the flexures of the trunk, and arms, was still very abundant.

The patient seemed seriously ill, her pulse was small, weak, and rapid; she had lost all desire for food, and her asthenic condition gave cause for so much anxiety, that I was on the point of getting her further advice.

The following day, some improvement in her general state was apparent, and the danger seemed to have passed over.

On the 11th of the month, being the 13th day of the disease, the following note was made :—

"The face, chest, and back, are now fairly well; desquamation on the face, which has been almost entirely branny, is nearly at an end; the peeling of the legs, where the eruption was less thick than on the chest and arms, is likewise almost completed; and the flexures of axillæ and elbows, which were entirely raw, are now nearly dry. The arms, which have remained throughout practically uncovered, and exposed to the air, still have large areas of necrosed epidermis adherent to them which has yet to exfoliate; nor are the arms everywhere quite dry, for at the margins of some of the dry patches, the surrounding cuticle is, in places, lifted up slightly by thin seropurulent exudation. This marginal blistering seems to have been set up by the patches of thickened dry epidermis, with which it is continuous (here are a few fragments of thickned dry epidermis which were removed from the left fore-arm)." The patient looks and feels better, her appetite has improved " and so has her pulse."

Three days later it was noted that the patient had "an acute catarrh of the naso-pharynx, with a running from the eyes, and a painful and congested condition of the right ocular conjunctiva." This catarrhal sate had been preceded by profuse colliquative diaphoresis.

The desquamation, excepting of the hands, where there is some peeling of the thickened cuticle of the palms taking place, and of the face where there is still some furfur, is now at an end."

* From the Transactions of the Society.

On the 21st day of the month, and the 23rd of the disease, I considered the patient had completely recovered. Treatment did not appear to affect the course of the disease; Unna's cooling ointment with the addition of some liquor plumbi, seemed to relieve the irritation.

I have brought this case to the notice of the Branch because it is an example of an entirely rare affection (I cannot myself call to mind having seen anything resembling it), and because I wish to invite the attention of the members of our profession in Burma to its occurrence, and to enquire whether any similar cases have recently come under their notice.

It will be within the memory of readers of the *British Medical Journal* that not many months ago, a remarkabe series of cases of exfoliative dermatitis occurred in London, and were reported in the columns of that journal. In December last, Dr. Savill read a paper at the Medical Society, on the outbreak, in an epidemic form, of a disease which, excepting for the longer duration of its stages, was characterised by features precisely similar to those presented by the case which I have described.

Dr. Savill styled it a 'new form of epidemic Skin disease' and many members present at the meeting, were disposed to agree with him that the disease was entitled to be so considered.

At the 15th regular meeting, the Secretary read the following notes sent by Surgeon-Captain C. L. Williams, M.D., from Yaméthin.

A case of multiple intra-uterine amputations, and an unusual case of strangulated hernia.

(*a*). A Burmese baby, 6 months old, was brought to the Yaméthin Dispensary, in the middle of July last, with gangrene of the right foot. A line of demarcation had formed at the junction of the middle and lower thirds of the leg, and the skin was inverted almost to the bone. The odour emitted was simply terrible, so bad that, unfortunately, the child could not be kept in hospital whilst my camera was brought, but after being thickly covered with charcoal, the foot had to be amputated at once, and the part removed for the sake of the sanitation of the Hospital. Hence, unfortunately, I have no photograph to send. The history was that the child was born with a macerated foot, which became putrid 3 days after birth; nothing had been done, but curiously enough the child's general health had remained perfectly good throughout. On admission, the foot was the size of a fœtal head, and had the appearance of a macerated fœtus, *i. e.*, it was in parts stripped of epidermis, was partly red and partly livid in colour, and, as stated before, of an exceedingly foul smell. The line of demarcation was followed and the foot removed: one attack of fever followed the operation in the evening of that day, and the morning of the next, probably not sapræmic; but after that the child made uninterrupted progress. The mother would not stay till the wound was quite healed, but when last seen the wound had a perfectly healthy granulating surface, about the size of an 8 anna piece, drawn well upwards and backwards, the cut surface of bone being covered by skin. I have no reason to suppose the child is not perfectly well now.

The points of interest in this case lie in the good health maintained by the child throughout, and in the singular apathy of the parents in allowing such an unpleasant companion to live with them so long in their house.

As bearing on the cause, it is interesting to note that the index and middle fingers of the left hand had only one phalanx (the proximal) each, and they were webbed, and that there was no great toe to the left foot. Both the fingers and toe had well padded stumps as if from amputations: there was no injury to the mother during pregnancy: no maternal impressions: no heredity. The mother did not notice whether the umbilical cord was paticularly long at birth or not. But it seems quite clear that the tips of two fingers and the whole of one toe must have been amputated in uterus and one foot strangulated. I may say that the foot on being cut open after amputation was found to contain many bones, but without any particular arrangement: it was in fact merely a bag of bones. It was of course unlikely in the presence of such disorganization that any order would be found.

(*b*). The second case was one of strangulated hernia from an unusual cause. The patient was a bugler in the Yamèthin Military Police, enlisted by myself 7 weeks before, and as I am always very careful in examining the abdominal rings, in recruits, I am sure he had no detectable hernia when passed.

But he said that ever since enlistment whenever he blew the bugle he felt pain in his abdomen and right groin: and as this pain increased with each lesson in bugling he had asked the Bugle-Major to transfer him to the fighting ranks. On the night in question he blew his bugle at 5-30 p.m., and felt the pain so acute that he went home and lay down. It grew worse until at 7-30, he fainted and was immediately brought to the hospital in a state of syncope. From this he was soon revived and the usual attempts at reduction were made gently and for a short time. They failed, so he was operated on about 10 p.m. The hernia was right sided, inguinal, congenital: constriction as usual at the ring which had to be snicked. A radical cure was performed by ligaturing and sewing the neck of the sac as usual, and the testicle and cord were left intact in the scrotum.

He never had a bad symptom and the wound healed right off by first intention.

The interest of this case lies in the cause and the cumulative effects of constant tight fixations of the diaphragm. This man was aged 23, and had previously done plenty of hard work in tilling his own fields in the Punjab. But evidently no agricultural labour was sufficient to find out the weak point in his anatomy.

In the discussion which followed, Surgeon-Major D'Antra remarked that musicians who used wind instruments were much exposed to rupture, so that this case also came under the heading of straining.

Dr. Pedley then related a case of a left-sided strangulated inguinal hernia in a Burman, aged 50, seen by him in consultation at Mr. N. N. Parakh's request. Taxis having failed

and the case not being urgent it was deemed advisable to apply a bladder of ice all night upon the tumour which was as large as a cocoanut. The ice produced no effect so the patient was anæsthetized, inverted and taxis re-attempted, and that failing, an operation was at once decided upon. After transfixing a fold of skin, an incision was made and the structures overlying the sac were carefully divided. The sac was exposed and the constriction cautiously divided and the hernia returned. It was, however, found that a certain portion would not return, so on carefully examining again it was ascertained that the left testis with a short cord which had not properly descended was in the way. This was left intact and undisturbed, the parts were brought together by a few stitches of silver wire, dusted with iodoform and tightly bandaged. The patient recovered without any bad symptom, except that his urine had to be drawn off for over a week with a No. 6 catheter, his urethra being abnormally narrow.

Surgeon-Major D'Antra asked if the application of ice was good when there was pain. Brigade Surgeon-Lieutenant Colonel Hunt in reply stated that ice did not relieve pain and should not be continued long, as it might tend to increase gangrene. He narrated a case of a clergyman who having ruptured himself got so much excited with the pain after taxis that his Hospital Assistants were afraid of going near him. Dr. Hunt attempted reduction after grain doses of opium and was successful.

Mr. Parakh stated, that in his practice he found belladonna both externally, and internally very useful, as in intussusception of bowels, as a palliative, and related an amusing case of a reducible right inguinal hernia in a Burman aged 66, he saw recently, where two Burmese ladies were occupied one on each side in pressing and kneading the abdomen with all their might, and the poor victim moaning away, to drive downwards what was was considered by them "wind in the belly."

At the 16th regular meeting the Secretary read the following paper, sent by Surgeon Captain R. H. Castor of Myengyan.

A case of Splenitis leading to abscess, operation, recovery.

Name.—Nga Pan U, was admitted into hospital on the 29th January, for an enlarged spleen.

History.—He had been in good health previously, and there was no history of an injury or accident to the organ or himself.

Local Symptoms.—He had the following local symptoms. The whole gland was uniformly enlarged. This increased and extended nearly as low as the pelvic region, slightly towards the right side and backwards, the swollen anterior edge was felt distincly. Tumour was movable. No fulness or bulging in the left side. A certain amount of pain was felt at first but subsequently was very acute and prevented the patient from sleeping at night time; it was also increased by pressure and lately the organ could hardly be touched, so acute was the pain.

General Symptoms.—The general symptoms were a look of anxiety. Pulse small and frequent. Temperature 103, but no shivering fits preceded or accompained the fever. Appetite impaired. No irritability of the stomach or vomiting. Tongue coated with a white fur. Bowels constipated. No splenic cachexia.

Complication.—On the 3rd day after admission the surface of the chest over the heart was found swollen and enlarged: this subsequently developed to a fine rounded tumour about the size of half a cocoanut, and was accompanied with pain increased by pressure and as hard as stone. His chest measured 36 inches over the most prominent part of the tumour. His ordinary chest girth was only 29 inches. There was no cardiac murmur or irregularity of the pulse, but dyspepsia and palpitation were present.

On the 15th July the patient complained of an intense throbbing pain in the spleen and fluctuation was detected the following day in a small rounded tumour about the middle of the enlarged organ.

Treatment.—As I did not care for any of the aspirators in the hospital, I decided to open the abscess with a trocar and canula: so cut down on the tumour with an ordinary scalpel, divided the skin and tissues, then intruoduced the trocar and canula, and removed about 3 ounces of healthy, landable pus. Cavity was then washed out with hydrarg perchloride lotion (1 in 2000) and a drainage tube was inserted and left in. The second day there was a slight discharge, and in a week the cavity healed up. At first I intended painting these enlargements with iodine and collodion. This treatment answered very well in the swelling in the cardiac region but did not prevent suppuration in the splenic tumour. In this connection I may mention iodine when combined with collodion gives better results than when it is used by itself.

Remarks.—In the first place as a primary affection splenitis is rare, as it chiefly occurs from hæmorrhagic infarctions which generally lead to suppuration. Further these infarctions occur during the course of contagious fevers, blood poisoning, etc. This patient had a good previous history, had no injury of any kind, and had no valvular disease of the heart. In the next place there was this very abnormal and peculiar swelling over the heart which appeared subsequently to the splenitis, and occupied that part of the chest from the 2nd to the 7th ribs, and was as I mentioned before as hard as stone, and never softened during the whole course of the disease. I can give no reasonable explanation for it. The symptoms were also chiefly negative, and there was no vomiting or any disturbance of the stomach.

With regard to the treatment. I think free incision and drainage better than any other mode: the incision was made over the most dependant part of the abscess which was situated deeply. There was no bleeding to speak of, and the relief the patient got after evacuating the contents of the abscess was almost immediate.

At the 17th meeting, Surg. Lt.-Col. Mayne read a paper on Enlarged spleens, the result of malarious fever contracted in Upper Burma during the last year, and supported what he had to say by diagrams neatly printed of over 300 cases. It was pointed out that there was great loss of life from it, and in his

SUPPLEMENT TO

THE MEDICAL REPORTER,

For AUGUST 1893.

Programme of the XI International Medical Congress to be held at Rome, from 24th September to 1st October 1893.

CALCUTTA,

THE "MEDICAL-PUBLISHING" PRESS.

PROGRAMME OF
THE XI INTERNATIONAL MEDICAL CONGRESS,

Rome 24th September-1st October 1893.

Prof. L. PAGLIANI, M. D.
Treasurer,
ROME.

Prof. G. BACCELLI, M. D.
Chairman,
ROME.

Prof. E. MARAGLIANO, M. D.
Secretary General,
GENOA.

This Congress was decided upon at the one held in Berlin 1890, and it will be inaugurated by H. M. The King of Italy on the 24th September next. It will be closed on the 1st October 1893.

Specification of the Sections.

The work of the Congress is distributed among the following nineteen Sections.

SECTION I. Anatomy.
" II. Physiology.
" III. General Pathology and Pathological Anatomy.
" IV. Experimental aud therapeutic Pharmacology.
" V. Internal Medicine.
" VI. Diseases of children.
" VII. Psychiatry, Neuropathology and Criminal Anthropology.
" VIII. Surgery and Orthopedy.
" IX. Obstetrics and Gynecology.
" X. Laryngology.
" XI. Otology.
" XII. Ophthalmology.
" XIII. Odontology.
" XIV. Military Medicine and Surgery.
" XV. Hygiene.
" XVI. Sanitary Engineering.
" XVII. Dermatology and Syphilidology.
" XVIII. Forensic Medicine.
" XIX. Hydrology and Climatology.

All requests for information should be directed to the Secretary General.

Seat of the Congress.

The magnificent buildings, known as the *Polyclinic* in Rome, will be the seat of the Congress. Among other advantages which are connected with these vast Halls the most important to be noticed is: that the whole of the nineteen Sections, among which the scientific work of the Congress will be carried on, will be in the same Place, and further that each Section will be distinct and isolated, for, on account of the number of stately Halls with their adjacent suites of rooms, each of them will have: A large Hall, rooms for demonstrations, for the sectional offices, for its President and its Secretary.

This immense building offers this additional advantage, that although there will be so many offices under the same roof, the scientific work will be carried on with the greatest quietness and order.

Means of communication. Information.

The Palace of the Polyclinic is distant from the centre of Rome (Piazza Colonna) about 15 minutes walk.

For the convenience of Congressists there will be Branch Offices of the Post, and the Telegraph, and the Telephone will connect, first the Palace with the rest of the City, and each of the Sections with the others.

A special office for information will remain open all day during the Congress week: the four official languages will be spoken in this office.

An office will be opened three days before the Congress for the tabulation of official and other matters, and will remain open till the final close of the Congress.

Daily Programmes and Reports.

Each evening a sheet in the four official languages containing summary Reports of the days's proceedings of the Sections and the orders of the Day for the next morning, with a list of the Titles of the papers to be read and of the names of their authors, will be printed and distributed by a special committee.

Admission to the Congress.

The persons entitled to admission to the Congress are:

1. Medical men.
2. Doctors of other Sciences.
3. Persons who are interested in the work of the Congress: this includes the ladies of the members of the Congress and the adult members of their families.

Admission fee.

The admission fee is 25 francs or one Pound Sterling.

This payment entitles the member to:—

1. Considerable reduction of fares.
2. Free admission to National Museums and Art Galleries in Rome and to the Excavations in Pompeii as also to the contemplated Excursions to Naples and Vesuvius, and the Official Receptions.
3. Report of the Congress which will be a valuable contribution to medical knowledge, and will be at least as large as the Report of the Berlin Congress which comprised five volumes.

Any one desirous of admission to the Congress should apply to:—

E. A. BIRCH ESQ., M. D., F. R. C. P., Brigade-Surgeon and Lieut.-Colonel, Principal of the Medical College, Calcutta.

From this gentleman they will receive a Travelling Ticket of membership which will entitle them to a considerable reduction of fares.

On arrival in Rome they should call at the General Secretary's office in order to obtain the official ticket of membership for which the fee is 25 francs for a member, and 10 francs for ladies and adult members of either sex of their families.

The ladies and members of families must each be provided with a Travelling Ticket so that they can also participate in the reduction in fare.

Official languages of the Congress.

In all the sittings the official languages of the Congress will be: Italian, French, German and English. Members will be allowed to make use of any other language for brief remarks, and only, when some one present is willing to at once translate them into one of the official languages.

Papers and their Precis.

Papers to be read at the Congress should be communicated to the General Secretary of the 11th International Medical Congress, Genoa.

A very brief prècis of the contents and the conclusions arrived at, should be sent and will be printed and distributed by the President. The time allowed for the reading of each paper is 15 minutes. The gentlemen taking part in the discussions, will only be allowed to speak once, and that for five minutes only.

When the discussions are concluded, the Author of the paper will be permitted to reply to all adverse comments at once, but he must not exceed 10 minutes.

In exceptional cases and when the subject is of special importance, the Chairman of a section will have the power to extend the time allowed an Author, provided the section agree.

Papers to be read in full Congress.

There will be chosen from each nation an illustrious scientist to read a paper of general interest on some of the many vital subjects in the vast field of medicine, which still await a solution.

The Professors requested to read such papers are: Virchow (Germany) — Nothnagel (Austria) — Brouardel (France) — Foster (England) — Danilewsky (Russia) — Stockvis (Holland) — Babes (Roumania) — Jacobi (North America) — Laache (Sweeden) — Bizzozero (Italy) — S. Ramon y Cayal (Spain).

International Exhibition of Medicine and Hygiene.

On the occasion of the XI International Medical Congress in Rome, there will also be inaugurated an International Exhibition of Medicine and Hygiene which will include everything that may practically interest physicians and specialists: a special Committee has been appointed for this purpose.

Entertainments.

A special Committee provides for the organisation of a series of official entertainments, so that the members of the Congress may employ their leisure hours pleasantly and agreeably.

Up to the present time it has been settled that on the 23rd September the first meeting of the Members of the Congress is to take place in the Exhibition. The following day, the 24th, the inauguration of the Congress will take place in the presence of H. M. The King of Italy.

Excursions to Pompeii and Vesuvius, entertainments receptions and dinners will take place.

Special medals.

Special medals will be given to each Member when they call upon the Secretary in Rome.

Journey from India to Italy.

It will be convenient for those members, coming from *India* to attend the Congress at Rome, to avail themselves of the regular lines of the *North German Lloyd* and of the *Italian General Navigation*.

The former Company calls at Colombo and Aden. The latter has a regular line from Bombay to Naples and Genoa.

On application to the agents of these Companies at the above mentioned Ports, the holders of the Travelling Ticket of membership can obtain a 1st class passage at a reduction of 20 per cent on the regular fares by the steamers of the *North German Lloyd*, and for francs 775,90 from Bombay to Naples or Genoa by the Italian steamers.

In continuation of their journey from either Geona or Naples to Rome, members can take either direct return tickets, or circular tickets.

The reduction allowed to members of the Congress for direct return tickets is:—

50 per cent Genoa-Rome-Genoa.
40 ,, Naples-Rome-Naples.

In order to obtain this very considerable reduction, each person entitled to it must be provided with the Travelling ticket of membership and the Italian Railway Passes.

Instruction relative to these documents will be found on the last coupon of the railway pass which must be torn off and kept.

If, however, members desire to travel by a circular route, they can obtain at the Booking office at the Railway stations in Naples and Genoa, circular tickets at a further reduction of 20 per cent on the usual fares mentioned in the following.

List of circular-tours.

Journey XX.—Genoa - Pisa - Leghorn - ROME - Florence - Bologna - Venice - Verona - Milan - Turin - Genoa ; Price Lires 155,10 equal to 6 pounds sterling.

Journey XXII.—Genoa - Pisa - Leghorn - ROME - NAPLES - ROME - Florence - Bologna - Padova - Venice - Verona - Milan - Turin - Genoa; Price Lires 195,25 = 8 pounds sterling.

Journey XXIII.—Genoa - Pisa - Florence - Pisa - Leghorn - ROME - Ancona - Bologna - Ferrara - Padova - Venice -

Verona - Milan - Turin - Genoa; Price Lires 170,70 = 7 pounds sterling.

Journey XXV.—Genoa - Pisa - Florence - Pisa - Leghorn - Rome - Naples - Foggia - Ancona - Bologna - Ferrara - Padova - Venice - Verona - Milan - Turin - Genoa; Price Lires 208,25 = 8 pounds sterling.

Journey XXVII.—Genoa - Pisa - Florence - Pisa - Leghorn - Rome - Foligno - Ancona - Bologna - Milan - Turin - Genoa; price Lires 153,70 = 6 pounds sterling.

Journey XXIX.—Genoa - Pisa - Florence - Pisa - Leghorn - Rome - Naples - Foggia - Ancona - Bologna - Milan - Turin - Genoa; Price Lires 191,20 = 8 pounds sterling.

Journey XXX.—Genoa - Pisa - Leghorn - Rome - Florence - Bologna - Milan - Turin - Genoa; Price Lires 137,50 = 5½ pounds sterling.

Journey XXXII.—Genoa - Pisa - Florence - Pisa - Leghorn - Rome - Naples - (by s. s. to) - Palermo - Catania - Messina - (by s. s. to) Naples - Foggia - Ancona - Bologna - Ferrara - Padova - Venice - Verona - Milan - Turin - Genoa; price Lires 322,10 = 13 pounds sterling.

Journey XXXIV.—Genoa - Pisa - Florence - Pisa - Leghorn - Rome - Aquila - Ancona - Bologna - Ferrara - Venice - Verona - Milan - Turin - Genoa; Price Lires 185,65 = 7½ pounds sterling.

Journey XXXVIII.—Genoa - Pisa - Florence - Pisa - Leghorn - Rome - Aquila - Ancona - Bologna - Milan - Turin - Genoa; Price Lires 168,55 = 6½ pounds sterling.

Journey XLV.—Genoa - Pisa - Florence - Pisa - Leghorn - Rome - Naples - Bari - Ancona - Bologna - Milan - Turin - Genoa; Price Lires 218,60 = 8½ pounds sterling.

Journey XLVII.—Genoa - Pisa - Florence - Pisa - Leghorn - Rome - Naples - Bari - Ancona - Bologna - Ferrara - Padova - Venice - Verona - Milan - Turin - Genoa; Price Lires 235,65 = 9½ pounds sterling.

Return from Italy to India.

Members can return to India by either of the lines above mentioned and will have to pay :—

1st, on the Italian Steamers, the same fares as they paid coming to Italy.

2nd, on the North German Lloyd Steamers they will be allowed a reduction of 33⅓ per cent on the ordinary fare on condition that they come to Italy by this line and return to India by one of this Company's Steamers within six months from the date of embarkation in India.

experience it was imperative to transfer cases to India as early as possible. All these cases were in Natives of India, from various parts of India, and mostly from the Southern presidency—Madras. Various interesting points were dwelt upon showing that some considerable pains had been taken in preparing the paper. The symptoms in the cases were treated at some length and showed that the patients' constitutions were thoroughly undermined (malarial cachectic) by residence in the unhealthy climate of Upper Burma.

Surg.-Col. Hunt made some remarks that much had to be learnt with reference to the subject of enlarged spleens, and he proposed a vote of thanks for the interesting and valuable paper, the notes of which must have taken some considerable time to prepare. This was seconded by Mr. Parakh, and carried unanimously.

Surg.-Col. Mayne also related a case of rupture of the spleen, the result of a blow. The spleen had become enormously enlarged after repeated attacks of fever in Burma. Death took place very rapidly, and the case pointed to the extreme care necessary, when this organ has been enlarged by fever.

The Hon. Secretary then read a paper by Surg. Capt. H. Castor, on a case of bayonet wounds involving both lungs. Nga La, was admitted into hospital on the morning of the 23rd July 1892, suffering from two bayonet wounds of both lungs.

1. A punctured wound in the right-mammary region, ½ inch diameter and 2 inches deep, triangular in shape, between the 3rd and 4th ribs; its direction was upwards and forwards.

2. A punctured wound in the axillary-region, ½ inch in diameter, and 4 inches deep, triangular in shape between 4th and 5th ribs; its direction almost directly inwards.

The wounds had clean cut edges which were slightly everted.

I shall endeavour now to classifiy the main symptoms under the following heads:—

Shock.—As is usual with an injury of an important internal organ, this symptom was present, but was not so marked as expected from the nature of the wound.

Hæmorrhage.—There was copious bleeding from external wounds, especially left, and which at one time threatened to prove fatal at once, as I thought one of the pulmonary vessels must have been wounded, but this the *post mortem* showed to be not the fact, and the source of the hæmorrhage was entirely from the substance of the lung.

Hæmothorax.—There were the general signs of coldness, small, weak pulse, and increasing dyspnœa, &c. He was only able to lie on his back as both sides were injured. There was bulging of the intercostal spaces near the wound on left side, and occasional gushes of blood came through them when he coughed, or moved. The physical signs were dullness on percussion, absence of respiratory murmur and vocal fremitus. No ecchymosis of the loins or chest wall.

Emphysema.—This was slight at first, but soon extended to an enormous extent, first commencing in neighbourhood of the wound and forming a puffy diffused swelling, crackling on pressure. It then extended over the upper part of the trunk, neck and face; the left cheek was enormously puffed out and the features were getting effaced. As a result he was unable to move about his arms, and lay helpless. It was perfectly evident that if coughing was more prominent, the whole body would have been extensively infiltrated.

Hæmoptysis.—This, extraordinary to say, was slight, and there was no spitting or vomiting of blood to speak of.

Pneumothorax.—Was present, but a good deal of air escaped through the external wounds, producing what is known as *traumatopnœa*, and the expelled air was churned up in a fine, bloody froth.

The constitutional symptoms were principally dyspnœa, which is easily explained, temperature of 101° a few hours afterwards, and which kept up till he died, and prostration. His intellect was clear to the end, and there is no doubt that if he had lived longer, other complications such as pneumonia, pleurisy and empyema, would have supervened. He lived for 32 hours, and died from asphyxia brought on mainly by the hæmothorax and emphysema.

Treatment.—This patient after the receipt of injury, unfortunately had to be removed to Hospital, which was half a mile from the place, and the mode of conveyance was a cart, so that the chances of his recovery were very much diminished from the first. Regarding the treatment proper, I have to add that the collapse was not interfered with, as it was not very severe. The wounds were carefully washed with carbolic lotion, and the openings were closed with a piece of lint: then the wall of the chest (left side) was fixed by long, broad strips of plaster, an aperture being left between the strips opposite the wound.

Opium and gallic acid were given in large doses every 3 hours. Cold was applied to the chest, rest and quiet enforced, and he was kept on milk diet.

The bleeding was arrested in a short time after his arrival in hospital, but emphysema was uncontrollable. Great authorities can be quoted on both sides regarding the treatment of his injury. I do not think strapping or keeping the wound practically open was contra-indicated, as the wound was deep and blood and air was issuing freely through it. Unfortunately, he could not lie on either side, as both lungs were wounded, neither did I think any form of treatment such as tapping, scarification to give exit to the air in the areolar tissue, or any exhausting syringe would have been of any avail in checking the infiltration of air.

Remarks.—It will be seen from the facts of the case that there was no hæmoptysis, although Erichsen states that in a wound of a lung it is an almost necessary and invariable accompaniment.

There was no ecchymosis of the loins described by Valentin and Larrey, and looked upon by some surgeons as pathognomonic of hæmothorax.

The emphysema was very marked and could not be checked, as the air was escaping from both lungs. It took the usual course between the layers of cervical fascia into the neck, then face and upper limbs. Another point of interest in this case is

that when feeling for the pulse in the ordinary place it could not be detected. So one nearly came to the conclusion that the sign (pulseless condition) was the beginning of the end; however, feeling more carefully, I found that the radial artery was taking an abnormal course, and left the front of the forearm about 3½ inches above the wrist, and could be felt at the back of the wrist, just before it disappeared between the heads of the abductor indicis muscle into the palm.

Surg.-Lt.-Col. Mayne did not favour syringing as it involved often the possibility of fatal hæmorrhage by removing clots which might be the only means of plugging the wound.

Surg.-Col. S. B. Hunt considered that syringing was not the advisable procedure, and would prefer rest and opium in these cases.

The Secretary was asked to write a letter of thanks to Surg.-Capt. Castor for his paper.

Dr. Parakh then read a paper on *Laceration of Vagina from indirect violeuce.*

Mrs. P, an Eurasian girl, aged 16 years, and married 8 months ago, came to Rangoon with her husband from Calcutta in August last. Her catamenia recurred regularly until she came to Rangoon, when she had them twice in the month. On the 13th of September last, at 1 P.M., while going to the bath room she missed her step and fell on her abdomen and hurt her left elbow and forehead a little. She got up immediately, felt no pain any where, except a slight "pulling sensation" in the lower abdomen, and noticed blood issuing from the vagina. She thought her periods had come on again, and took to bed. The discharge now flowed freely from her, so the husband got alarmed and spoke about it to the midwife who was at the time in attendance on his step-mother, upstairs. She came down and gave the girl a dose of ergot and applied a bladder of ice on the pubes, thinking that the courses were excited by the fall. This apparently had no effect.

On examination I found the uterus not fairly in a normal position—it was a little antiflexed. The vagina was full of blood-clots, the cervix hard and closed. She was fretful and stubborn to a degree while being examined, and screamed and cried aloud as if she felt great pain. There was no fever, abdominal tenderness, or pain in the back. The bowels were constipated. I ordered perfect rest, alum injections, and cooling drinks, a dose of gallic acid and digitalis and left her with instructions to send for me if the hæmorrage recurred, as I had an urgent call to attend to just then. I was again sent for at 10 in the night, *i.e.*, three hours after my first visit. The blood flow had lessened but evidently she was still losing much. I re-examined her carefully, and this time discovered a 1½ inch long and ⅛ an inch deep laceration at the anterior surface and upper end of the vagina by the side of the cervix, corresponding to the base of the bladder. It was a clean cut wound with its two lips gaping. I compressed the rent with my finger, carrying a pledget of lint saturated with Friar's balsam, as suturing was at that time of the night, in an obstinate and self-willed girl, and with a narrow vagina, impracticable. I plugged the vagina with lint soaked in iodoformed vaseline, bandaged her, and having administered a dose of bromide and hyoscyamus, left her for the night. In the morning I was told that she had passed a restless night, vomitted everything that was given to her, except beef tea which she retained. Her pulse was frequent and weak, and she tossed about a great deal showing that she had lost much blood. When I removed the plug I noticed no fœtor but a good deal of blood-clots came away on iced-cold alum water injections. The irritability of the stomach lasted for about 3 days, until a copious evacuation after an enema checked it. The pulse and her general anæmic condition remained the same for some days. After the third day the hæmorrhage was entirely under control as she had had ice-cold alum-water injections constantly thrown in, and iodoform pessaries put in occasionally. Her strength was kept up by iced milk and beef tea. As she felt better, she wanted to go to Calcutta to her parents, and would not allow any more treatment to be pursued and became so refractory that, it was decided to send her to the Dufferin Hospital, where she would have to remain under discipline.

In this case I carefully inquired into the habits of the patient, and I was satisfied that she was not hysterically inclined, and that the tear was not the result of wilful injury or masturbation. She assured me that she had nothing in the vagina in the shape of a foreign body at the time of the fall, so I could only come to the conclusion that the rupture was the effect of indirect violence. I believe the soft part gave way at the point of resistance, that is, in the direction opposite to the contact of violence. Books on diseases of women and Surgery give no mention of such an accident, but in the *British Medical Journal* of the 17th September last, I find a case reported where a woman of 40, sustained a fall down-stairs while carrying a heavy bundle of paper in her arms pressed against the chest. The bundle was dropped and as she fell, she struck her abdomen against the corner of a step, and at once felt intense pain in the hypogastrium and became insensible. About half an hour later she revived, crawled up the steps, reached home and went to bed. She then noticed blood coming from the vagina. She thought it was menstrual. Four days later she returned to work at the mill. Dr. Ostermayer, on examination found an oblique rent about 2 inches long, in the posterior vaginal fornix. He quotes Henry's case where the bladder and anterior vaginal wall were lacerated, when the patient was thrown out of a cart and struck her abdomen against a post.

The thanks of the meeting were presented by Surg.-Col. S. B. Hunt to Mr. Parakh for bringing forward this case, which elicited some excellent discussion. This was seconded by Surg. Lt.-Col. Mayne. This terminated a very pleasant medical meeting. The usual vote of thanks was given to the chairman Surg.-Col. S. B. Hunt, for his kindness in presiding, proposed by Mr. DeSouza, seconded by Mr. Dey.

At the 18th meeting, Surg. Lieut.-Col. Mayne read a paper on *Cannabis Sativa,* Indian Hemp. *N. O. Urticaceæ.*

Synopsis:—1. Historical Sketch. 2. Varieties. 3. Character of those taking it. Assassins drug. 4. Attitude of respectable natives of India towards it. 5. Effects on English medicine.

6 Masks other complaints. 7. Unknown to European Medical men and Europeans generally. 8. Practical import of paper with its gravity.

Some discussion followed, and in course of which Dr. Parakh asked if a person addicted to Ganja could be made to leave off the habit without producing any ill-effects, as persons taking or smoking opium cannot be made to do so at once. Drs. Mayne and D'Antra replied to the effect that in their practice they have invariably put a stop to their patients taking these drugs at once and with no ill-results. Those taking opium require to be watched lest they commit suicide.

On the proposition of Mr. Parakh, seconded by Dr. D'Antra a vote of thanks was unanimously passed to Dr. Mayne for his paper and the exhibition of specimens of the drug.

Surgeon Lieutenant-Colonel T. Mayne then read a paper on "Madak." He described its composition, uses, effects on the human economy, the incurability of its habit, and its abhorence by respectale Natives, etc.

At the 20th meeting, the Secretary read the following notes from Surgeon-Captain C. L. Williams of *A Case of Acute Yellow Atrophy of the Liver.*

A male Hindoo, probably a cooly, aged about 28, was brought to the Yamethin Civil Hospital at 8 P. M., on the 23rd of October 1892, having been found lying comatose in the street.

It appears he had been so lying for about 12 hours, but was left for asleep. No other history was obtainable, and he was never identified. He never spoke.

On admission he was semi-comatose, but slightly restless and occasionally moved his head from side to side. He tried to protrude his tongue when strongly urged to do so, and swallowed liquids put into his mouth. His jaws closed convulsively at intervals. His conjunctivæ were orange, being deeply coloured, and even his dark skin shewed discoloration His urine was all passed under him, in great quantity, and stained the bed linen a bright orange. Pulse 112 strong, irregular; respirations 36; temperature subnormal. He never vomited or had a motion. Urine acid, 1,020, simply loaded with bile. He remained 2 days practically in the same state, and died 48 hours after admission, of asphyxia, due to engorgement of the lungs from hypostatic congestion.

A post-mortem examination was made 14 hours after death. All the areolar tissues and all the organs, but especially the cerebral meninges were very deeply bile stained. The omentum was adherent in one part to the peritoneum. The stomach contained a few scattered hæmorrhages and was almost devoid of rugæ. The œsophagus was red from congestion and stripped of its epithelium for about an inch in its centre. No traces of corrosives in the mouth. The liver weighed only 30 ounces and was soft, flabbly, friable, and deeply bile stained. The lobules were no longer distinct, and the whole organ on section looked like an orange structureless, friable mass. The spleen was large and soft. The kindeys together weighed 10 ounces and were extraordinarily deeply congested. I have never seen any congestion so intense before. The other organs contained nothing more than secondary manifestations, *e.g.*, congestions in the lungs, intense, and in the intestines, etc.

Remarks.—I sent the stomach and its contents, and parts of the liver and kidney to the Chemical Examiner, Rangoon—M. Hunter, Esq., who kindly made a very careful examination for phosphorus, antimony and arsenic, but found none. The case must therefore have been one of the rare spontaneous ones that some men deny. Bad hygienic conditions would almost certainly be present in the life of a patient of this class. The only other case I have seen was in hospital in England, and there the patient was a woman, as far as I remember, aged about 30. In that too, no cause could be traced.

One ascaris lumbricoides was present in the small intestines, but it is most extremely improbable that that could have caused reflex hepatic disturbance, as these ascarides are so constantly present in Natives, and acute yellow atrophy is so rare.

Chevers (*Diseases of India*) only knew of four museum specimens of this disorder when he wrote his book. Probably this is the first case recorded in Upper Burma. My own notes of it are very complete, but the essentials are contained in the abstract.

Surgeon-Major Dantra exhibited a Burmese lady on whom he had operated for cicatricial contraction following a burn. The left fore-arm was in an extreme state of contraction, and at one time, he thought he would have to divide the contracted biceps, but passive motion sufficed to accomplish it.

MICROSCOPICAL SOCIETY OF CALCUTTA.

A GENERAL meeting of the members of this Society was held in the Asiatic Society's rooms in Park street on the evening of the, 10th of July. Dr. W. King, the Vice-president of the Society presided, and the meeting opened by Mr. W. J. Simmons, the Honorary Secretary reading the proceedings of the last meeting which were confirmed. Dr. Alcock then read a notice of the life and work of Mr. James Wood-Mason, deceased, the late President of the Society. He said:—James Wood-Mason was born in 1846, and after an education at the old foundation of Charterhouse, and at Queen's College, Oxford, he came out to India in 1869, as Assistant Curator of the Indian Museum. In his choice of natural science as a profession, he seems to have been most influenced by the stirring discoveries of palæontology: for even as an undergraduate he was an active field geologist, and before his first appointment to the Indian Mussum he had published several original papers on palæontological subjects in the proceedings and quarterly journal of the Geological Society. He always spoke with enthusiasm of this early work, and in an age of ever narrowing specialism, he always maintained the old tradition that no man could be really a naturalist, without a sound preliminary training in the general principles of geology.

His ideals in this relation were high, and perhaps they were encouraged by his association with a man who was highly accomplished both as a zoologist and as a geologist—namely Dr. Ferdinand Stoliczka. Shortly after his arrival in India, he joined the Asiatic Society, of which for twenty-two years he

was a member; and during the greater part of this period he was a constant contributor to the *proceedings* and *Journal* of the Society. His papers read before the Asiatic Society embraced nearly the whole field of zoology including the final subject of sociology; but his most important contributions were upon insects and crustacea, in which branches of natural science he may be looked upon as a real authority. He was also a very constant contributor to the *Annals and Magazine of Natural History* in which he published a good deal of his best work. To the *proceedings* of the Royal, and Zoological and the Entomological Societies, he also made some valuable contributions. Although he always spoke of himself as only a systematic zoologist, yet his work had no affinity with that of the mere "dry as dust" species-monger. He was always on the look out for the meaning and inner significance of the facts of animal structure, and he could never look upon an animal as a mere dead object, to be described and classified and done with. For this reason, even his purely descriptive papers were full of suggestive remarks, while his conversation on zoological subjects worked within his hearers like a ferment of Socratic force. This philosophical bent is shown in his papers on the *'clasper'* and on the *antennae,'* and and on the *Femoral Brushes* of the *Mantidæ;* on the *Stridularing organs of the Crustacea,'* on the *'Scent-glands of the scorpion spiders,'* and on secondary sexual characters generally as well as on larval and infantine characters. Unfortunately, he did not publish a fraction of what he knew about these interesting bionomic phenomena, for he had a scholar's abhorrence of incompleteness and a scholar's fastidious taste for balance and perfection. Even as a systematic zoologist, this dislike for the incomplete was shown, and extensive as were his publications, yet they were not a small part of what a man of his knowledge and attainments, but with less devotion to a principle—the grand principle, namely, of not unnecessarily "over-burdening the literature" might have published. All his work therefore is marked by finish and accuracy, and it is hardly to be feared that any of it will need either correction or amplification. In purely systematic zoology his principal published works were:—(1) *A Catalogue of the mantodea* which was not completed at the time of his death, (2) a series of papers on the butterflies of the Andamans and Nicobars and of Cachar, and (3) descriptions and illustrations of the deep sea crustacea of the Indian region. He had in contemplation a *Catalogue of crustacea*, for which however he had only collected the bibliographic materials. If he had been spared to complete this work it would probably have ranked with the great zoological classics of the century. He did a certain amount of economic work, although he was never attracted to the mere trading applications of science. His work is too well known locally to require further mention. Mr. Wood-Mason has been connected with this Microscopical Society from its inception. He was one of the twenty-one gentlemen, who assembled on Thursday, the 23rd June 1887, in the reading room of the Dalhousie Institute, to consider the advisability of framing an Asociation, such as we now have for cultivating the study of the microscopical branches of natural history. He was therefore one of our original members, and served from that date until the 26th January 1889, as Vice-president under Dr. Simpson. He was then elected President of the Society, and the list of his papers testify only in part to the interest in our welfare, and the amount of work he has done on behalf of the Society. Although on account of failing health, he was unable to take his usual place in the chair during the last two or three meetings held before his departure for England, he still continued his help by advice and assistance to the Council and members.

Dr. Simpson next spoke a few words. He said that they were deeply obliged to Dr. Alcock for the interesting and sympathetic sketch of the late Mr. Wood-Mason, the news of whose death came to many af them as a shock and surprise. Dr. Alcock had shown them what a busy life Mr. Wood-Mason led, and his friends knew how much of his time and thoughts were taken up with the one desire to extend the domain of that one particular branch of science, with which he was connected. He helped the Society out of a great many difficulties, and it was needless to say that they sadly deplored his untimely death.

Mr. Ryland said that, he also must add his expression of regret at the loss of their late President, Mr. Wood-Mason, who had devoted himself to his work, almost to the neglect of all other attractions. This Society almost owed its origin to the efforts of Mr. Wood-Mason, and they had sustained a great loss by his death.

Mr. B. Aitken next read a résumé of current periodical microscopical literature, after which Mr. T. H. Holland the President of the Society read a paper entitled "A Petrographical Province in Bengal.

The Rev. Father Lafont then made a few observations. This brought the meeting to a close.

Useful Formulæ

For Burns.

℞ Thymol, ... gr. vj.
Linseed-Oil,
Lime-water, ... aa ℥iv.
Dissolve the thymol in the oil before adding the lime-water.
—*Cincinnati Lancet-Clinic.*

Herpes.

Beausoleil makes use of—
℞ Picis. liq.,
Acid. salicylic, ... aa 6 parts.
Vaselin, ... 150 "
M.
—*Universal Med. Journ.*

Herpes Genitalium.

Monin employs—
℞ Pulv. amyli, ... 100 parts.
Tannin, ... 5 "
Bismuth. salicylat., ... 1 "
—*British Journ. Dermatology.*

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Current Medical Literature.

DOES NORMAL URINE CONTAIN SUGAR?

At a recent session of the Royal Medical and Chirurgical Society (*Lancet*), Sir George Johnson communicated a paper by Mr. G. Stillingfleet Johnson on the absence of sugar from normal human urine. Mr. Johnson stated that all the tests for sugar in common use depended upon its reducing action; thus in Fehling's test the quantity of sugar was gauged by the amount of cupric oxide reduced by a known volume of the solution. All human urine—normal as well as pathological—exerted some reducing action upon cupric salts in boiling alkaline solutions. Insufficient familiarity with this fact not infrequently led to the conclusion that sugar was present in a sample of urine simply because a certain amount of cupric oxide had been reduced thereby. Non-saccharine urines of high specific gravity were especially liable to be pronounced saccharine, because such urines, being highly concentrated, were richer than usual in the normal reducing agents. The object of the author of the paper was to indicate the nature of these "normal reducing agents." He agreed with Dr. Pavy in attributing one-fourth of the reducing action of normal human urine to the uric acid which it contained. He was, however, of opinion that normal human urines were absolutely non-saccharine; and in proof of this he described his method of separating the kreatinin of urine from that secretion, which differed from all methods hitherto described in effecting a complete removal of that base from the unconcentrated secretion by fractional precipitation with mercuric chloride. The properties of the kreatinin thus isolated were different from those of any base hitherto described, and this difference was especially remarkable when its reducing action was compared with that of other kreatinins. These differences in properties between bases having the same empirical formula were attributed to differences in atomic arrangemont—isomerism. Although the method adopted—precipitation by mercuric chloride—could not remove sugar from solution in the urine, the filtrate from the mercurial salt of kreatinin was found in normal urines to be destitute of reducing action; and the determination of the quantity of kreatinin present (by weighing its mercury salt), conjoined with a careful estimation of the kreatinin itself, proved that the entire reducing action of a normal urine might be accounted for by the uric acid and kreatinin which it contained, one-fourth of the whole reduction being due to the uric acid, and the remaining three-fourths to the kreatinin. A beautifully crystallized specimen of the reducing kreatinin of urine was exhibited.

In confirmation of Mr. Johnson's conclusion that normal human urine was non-saccharine, C. Schwartz has described a very delicate test for sugar which gives negative results with normal human urine. This test was exhibited during the evening. It was performed as follows: The urine was completely precipitated with lead acetate and filtered. The filtrate was rendered alkaline with potash and a solution of phenylhydrazine added. The mixture was well shaken and boiled. An orange color developed, which was followed by an orange precipitate, when excess of acetic acid was added if sugar were present. Schwartz states, and Mr. Johnson had confirmed his statement, that normal urine gave a negative result with this test. The conclusion was that sugar was absent from normal urine.

Dr. Curnow stated that he had been able, by means of the phenyl-hydrazine test, to detect so small a quantity of sugar as one-tenth of a grain in an ounce of urine. The test was, he thought, sufficiently simple to be used for clinical purposes. He adverted to the peculiarly globular form assumed by the particles of the precipitate under high powers of the microscope. He had also added to non-saccharine urine solutions of urate of potassium and of kreatinin in large quantities, and had found that these bodies did not in the slightest degree interfere with the efficiency of the test. It was on this account that he strongly recommended it for ordinary clinical uses.—*Maryland Med. Journal.*

THE INFLUENCE OF SOME OF THE NEW ANALGESICS IN INCREASING THE SUSCEPTIBILITY TO COLD.

While it is true that antipyrin, acetanilide, and similar compounds, were first introduced into medicine for the purpose of reducing fever temperatures, it has never been generally recognized by experimental or practical therapeutists that, they are capable of reducing the normal bodily temperature to any extent, and for this reason, many physicians have administered these remedies, since they have been employed so largely for the relief of pain, with little regard to the question of exposure of the patient to cold. We believe that it is important that this influence of these analgesics, should be more widely recognized.

While it is true that they do not reduce normal bodily temperature, it must be remembered that both scientific and practical research has proved them capable of decreasing the production of animal heat, and we can therefore readily understand that their administration to a person who is about to be exposed to cold might readily result in his suffering from what we ordinary call a "cold," by reason of the fact that his heat-centres fail, under the influence of the drug, to manufacture the increased amount of heat required by the body, owing to the exposure. For this reason careful ques-

tioning will nearly always develop the fact that the patients exposed to cold after taking these drugs suffer from a considerable degree of chilliness, and, if they catch "cold" readily, develop more or less severe congestion of localized areas, which may pass away in a few hours, or develop into acute attacks of coryza, laryngitis, bronchitis, or even pneumonia.

It is probable, too, that these drugs not only cause the patient to take cold by reason of their influence over the nervous mechanism governing the production of heat in our bodies, but also that their influence over the vaso-motor system aids in producing this result. Not that the drugs necessarily produce vaso-motor depression, but rather that in their action they render the vaso-motor system less active in adjusting itself to the circumstances with which it is surrounded. Thus the function of the normal vascular system, when the exterior of the individual is exposed to cold, is to cause peripheral vaso-motor contraction, with resulting internal congestion. This prevents the patient from becoming chilled, and allows the blood to remain in the warm, well-protected portions of the body. If this does not take place, the blood in the peripheral capillaries becomes chilled, and general chilling of the surface occurs, so that the actual amount of heat in the body is decreased, with more or less disastrous results. As we have said before, we believe that the employment of these antipyretic and analgesic drugs for the relief of various forms of pain, markedly increases the susceptibility of patients who may be exposed to cold.—*Therapeutic Gazette.*

FIN-DE-SIECLE QUARANTINE.

Many readers, it may be assumed, are not yet aware that amongst the several consequences of the last cholera epidemic in Germany, one still survives in full activity, namely, the quarantine in Hamburg. It is not a quarantine for passengers or goods coming to Hamburg from abroad, but quite the reverse; it is passengers going abroad who are kept in quarantine before leaving Hamburg. Only people coming from Russia and traveling through Germany, in order to embark in Hamburg for America, are subjected to a quarantine of six days' duration, after which they are taken directly to the outgoing steamer. This measure was called forth first by the stringent regulations to prevent the introduction of cholera from Europe into the United States; secondly, by the desire of the Hamburg shipowners and companies not to let the lucrative "emigration business," which they had almost monopolized, slip out of their hands. Being itself for a long time the only infected place, and the source of cholera, Hamburg was in great danger of losing the export of the "living goods." The matter was one which required skilful management and recourse was accordingly had to a preventive quarantine. It is, of course, much more convenient to keep the passengers in quarantine six days on land than on board ship, because, while the latter is expensive for the companies, the expense of the former falls only on the passengers. There is, of course, nothing to be said against the quarantine itself, so long as America insists in her demands, and Hamburg takes the trouble to comply with them. But the manner in which the quarantine is at present carried out in Hamburg deserves that public attention should be directed to it.

The number of persons kept in the quarantine barracks of Hamburg is between 1,000 and 2,000. Immediately after the arrival of a train carrying emigrants, the latter are escorted by the police to the barracks. The chief business the emigrants have in Hamburg is the purchase of a ticket to America, and that is bought for them by the police, whose duty it also is to ship them off to America at the proper time. As, however, there are not always steamers enough to carry all the passengers, many of them are detained for ten days, a fortnight, or even longer, waiting for the police to send them away. Thus the police are practically the masters of the situation—and of the emigrants. The barracks in which the poor quarantined emigrants are imprisoned consist mainly of three separate buildings in one large court. One of them serves as a dormitory, the second as a dining-room, and the third as the kitchen.

The dormitory is divided into several compartments, each of which is fitted with bedsteads, the bedsteads being divided into four berths, two above and two below. There is no other furniture in the dormitory. The floors are not washed or cleansed at all, and as the court is not paved and all washing is done in the court, all the mud, and dirt, and slush is brought straight into the sleeping and dining rooms. Each bed is furnished with a mattress, a straw cushion, and a dirty coverlet, and no other bedclothes whatever. The emigrants have to take their baggage into their beds, and as they seldom undress themselves properly, or take their boots off, it is easy to imagine what the exterior of the beds is like. To obtain one of these beds the poor emigrants have to struggle for it, as there are often not enough of them for all the people who are dragged into the barracks. After having passed the night in such a miserable berth, they crowd in masses out of the rooms; but the only place they can go to is the dirty, wet court, where a large cask, filled from the pump, serves as a common washing-basin. It is emptied in the most simple way—that is, by turning it over. Then begins another misery, the feeding in the dining-hall.

At breakfast-time (8-30 a.m.) everybody receives two small loaves (*Semmel*) and some tea. It is a curious sight to see the whole crowd standing and waiting to be admitted to the eating-room. They are admitted into the room only through one door, one by one—mothers with their babes in their arms, old and young people, all thronging and crushing each other to get in sooner. So great is the crush that some faint from want of strength or exhaustion. No one, however, can leave the dining-room before all have received and finished their poor meal; the air and smell in the meantime getting worse and worse, as the crowd inside becomes more dense. Thus those whom hunger has driven in amongst the first at 8·45 a.m. cannot get out before 10·30 or 11 a.m. The tea is given out in small tin basins, which serve afterward at dinner-time as

soup plates. This disgusting scene is repeated at dinner, which consists of soup and some meat, and at supper, which is the same as the breakfast.

The time between these meals is spent in loitering about in the case of those who have only been a few a days there, and in the case of over-time prisoners in anxious efforts to obtain release from their incarceration. These efforts consist mainly in getting an audience with the all-powerful police officer, who, to save himself trouble, chooses from amongst the emigrants some volunteer door-keepers, who are not too scrupulous in their way of keeping off the crowd. The scenes are sometimes heartrending. For the enforced hospitality accorded them, the emigrants have the privilege of paying a mark per day for the first six days, and half a mark for each day afterward. It is extraordinary that quarantine conducted on these lines—an incarceration worse than any prison in Great Britain, and perhaps than any in Germany—can be tolerated in a country calling itself civilized. The whole system is thoroughly bad, and under all the circumtances of the case unspeakably cruel. It could, however, easily be reformed, if a little humanity were admitted into the interior of the sad walls of these "barracks."—*British Med. Journal.*

THE MODERN VIEW OF INFLAMMATION.

The subject of inflammation, while practically of the greatest importance, is not one of which the pathology excites much interest. The student learns that the process is characterized by pain, heat, redness and swelling; that there is a dilatation of blood-vessels, stasis, emigration, exudation, pus, and so on. As to its cause and essential character, he has read in his books various theories, which did not give him much satisfaction and left little impression on his mind.

There has been going on, however, among pathologists a decided revolution in their views of the nature of the inflammatory processes, and it is quite time for the thoughtful physician to wake up to the fact of this change.

In a recent series of masterly lectures on the subject, Metchnikoff has presented the results of a long and laborious study of inflammation as it occurs in all forms of animal life. (Vegetables, he says, do not have inflammation.) Metchnikoff goes much further in presenting his theory than most pathologists but in many of his fundamental ideas there is nothing at variance with accepted facts. Underlying all forms of inflammation is the general law that the process represents a reaction of the organism to irritants. The irritants capable of causing inflammation were formerly thought to be almost any foreign substances; later it has been believed that only microbes and microbic products can cause inflammation, and for the surgeon this is still practically true. It has been shown, however, that certain chemical and mechanical agents can cause inflammatory changes. Much stress has always been laid upon the blood-vessels and connective tissue as being the tissues primarily and essentially involved.

It is from this view that Metchnikoff most positively dissents. For him, imflammation is a matter of cells. These cells all come from the mesoderm and are lymphoid in character. Without a mesoderm there would be no inflammation. The irritant particles in the body have the power of drawing these lymphoid cells to them, and this power is called chemotaxis. Having reached the irritant body, be it a microbe or toxine, the cell proceeds to devour it and render it harmless. The cell is therefore called a phagocyte, and inflammation is "phagocytic reaction of the organism to an irritant." Metchnikoff finds four kinds of leucocytes in the body. Only two of them, the mono-nuclear and poly-nuclear, have much phagocytic power. They originate in the lymphatic glands, the spleen, bone, marrow and blood. The poly-nuclear leucocytes have chiefly the latter origin. The different leucocytes are differently affected by different irritants, and in accordance with the chemotaxis and the kind of phagocyte we have different kinds of inflammation. Tubercle is one type; syphiloma another; suppurative and exudative inflammations furnish still other examples. The part played by nervous and vascular tissues in inflammation is necessarily secondary to the phagocytic process.

One fact that follows from the new view of inflammation is that this process cannot be idiopathic; it cannot arise without some poison or infection. Again, an inflammation has a tendency to subside. It cannot be kept up unless the infection or poison is a continuous one. Chronic nephritis and chronic hepatitis are, therefore, misnomers, unless it can be shown that a chronic irritant exists. Already, therefore, pathologists show a tendency to place some of the chronic inflammations in the category of degenerations.

Altogether, it can be seen that the modern views of inflammation will, if proven true, make great changes in our conception of the nature and treatment of disease.—*New York Med. Record.*

WHAT IS THE SPHERE OF THE NASAL SPRAY?

Dr. T. C. Evans (*American Prac. and News*, April 22, 1893) says:—

The substitution of vaseline and other petroleum products as a menstruum has done much to mitigate the evils of the aqueous solutions. First, because they are of themselves non-irritating; secondly, because they decrease or nullify the action of the drugs applied to the mucous membrane; but their use is open to serious objections, aside from the fact that they are therapeutically inert. They arrest, or at least greatly impair, the respiratory functions of the nose by forming an impervious coating to its entire mucous surface; they prevent the giving off of heat; they prevent the exhalation of moisture; they prevent the exchange of gases that should normally take place in the nasal cavities. In short, this protecting of nasal mucous membrane with vaseline, of which we have heard so much, simply means that we abolish the respiratory functions as long or often as we apply protection, so that the inspired air, instead of reaching the larynx and lungs saturated with moisture, and raised to a temperature approximating that of the blood, is cold and dry as in buccal respiration. It is ad-

mitted even by their most zealous advocates that their prolonged use produces a condition very closely resembling atrophic rhinitis.

It must be admitted that the spray is a most ingenious apparatus; that it affords a speedy, efficient, and cleanly method of applying medicines to the whole of the nasal mucous membranes; but, unfortunately for all concerned, we have not in the whole pharmacopœia a single medicine (cocaine perhaps excepted) of which we can say with any degree of assurance that when so applied it will favorably influence either the course or duration of any of the obstructive diseases of the nasal cavities.

To sum it up briefly, I will say that the sphere of the nasal spray is an exceedingly limited one; that, with the medicaments as commonly recommended in text-books, its use in most conditions of the nose is positively detrimental; that there are a few conditions where we find it convenient for cleansing purposes; that it is never curative; that those morbid conditions of the nasal passages which are amenable to treatment, are such as can be corrected or relieved by surgical means.

THE INFLUENCE OF ERGOT ON THE INVOLUTION OF THE UTERUS DURING THE LYING-IN PERIOD.

In the *Lancet* for November 19, Mr. Herman contributes the following article:

In the "Transactions of the Obstetrical Society of London," vol. xxx., for 1888, will be found a paper by C. Owen Fowler and Mr. Herman, in which observations are detailed pointing to this general conclusion: "That the administration of an ergot mixture during the first fortnight of the lying-in period appreciably increases the rapidity with which the diminution in size of the uterus goes on." This conclusion was reached by comparing the average rate of involution (*a*) in a number of cases, taken without selection, in which ergot was given, with (*b*) the average rate of involution in an equivalent number of cases, also taken without selection, in which ergot was not given. In the *Annales de Gynécologie*, vol. xxix., for 1888 p. 175, is published an investigation by Dr. Emile Blanc, of Lyons, conducted in a very similar way, but which led him to the conclusion that "ergotine administered during the first five or ten days of the lying-in period exerts no favorable influence on uterine involution." Dr. Blanc's research was quoted at the time in several English journals.

These two investigations seem to contradict one another. Mr. Herman desires to point out that they do not; but that, on the contrary, they confirm one another, and show the real value of ergot in the lying-in period. The reason that Dr. Blanc's conclusion differs from that of Dr. Fowler and Mr. Herman is this, that he chose the cases in which to test the effect of ergot. He took only cases of "normal delivery at full term, excluding premature labors, cases with febrile disturbance, and all cases needing any intervention" (p. 177). These cases excluded are just those in which the causes known to hinder involution are present. Dr. Fowler and Mr. Herman took cases without any selection, and therefore among theirs were included cases in which the causes of subinvolution were present. Dr. Blanc's research shows that in a normal lying-in the uterus completes its involution as well without ergot as with it. The paper by Dr. Fowler and Mr. Herman shows the beneficial effect of ergot in counteracting the causes which retard involution. Dr. Blanc's paper contains nothing in opposition to this view; on the contrary he expressly says, "Against secondary hæmorrhage the drug maintains it position. Its action is the more efficacious the nearer the delivery." The practical conclusion is, that while in a perfectly normal lying-in ergot is not required, yet when any cause of imperfect involution is present, or suspected to be present, ergot, given throughout the lying-in period, will counteract its influence, will promote involution, and should be given.—*Therapeutic Gazette.*

WHAT IS THE SWEETBREAD.

Several correspondents have written to point out, in connection with the proposal to treat diabetes by the ingestion of fresh pancreas, that it is not sufficient to recommend a patient to obtain a "sweetbread." The true sweetbread, regarded by *gourmets* as a great delicacy, is the thymus gland of the calf. As a rule, this is found only in the fœtus and young calf, under the lower surface of the trachea, "partly without and partly within the chest, between the layers of the anterior mediastinum." It is occasionally persistent, but usually disappears within a few months after birth. It is elongated, of a greyish-white color, irregular—that is, lobulated on its surface, and much more resembling a salivary gland and the pancreas than the thyroid. It is commonly known amongst butchers as the "throatbread," and rarely found except in animals supplying young veal or lamb. The pancreas is vulgarly termed the "gutbread" or "belly sweetbread," and is the article which would be supplied in the great majority of cases by butchers asked for sweetbread. The thyroid is situated at the upper part of the neck, not at its root, and is not regarded as a favorite article of diet. Though the lobes are closer together than in man, they are spoken of as two, each being named a "kernel" or "gland."

As far as we can learn, they are not ordinarily included among the sweetbreads. As compared with the thymus and pancreas the thyriod is very small, regular on the surface, ovoid in shape, reddish-brown in color, situated at the upper part and not at the root of the neck. The thyroid is sometimes confused by butchers with the lymphatic glands of the neck. Its dark color and characteristic shape—convex externally while somewhat concave and flattened where it rests against the trachea—should prevent this mistake. While thymus and pancreas are valued highly, the marked value of the thyroid is inconsiderable, and until its association with myxœdema it was rarely asked for.—*British Med. Journal.*

VITAL STATISTICS.

Stations.	Population,	Period.	Deaths.								Ratio of deaths per mille.	Births.	Ratio of births per mille.
			Cholera.	Small-Pox.	Measles.	Fevers.	Bowel Complaints.	Injuries and accidents.	Other Causes.	Total.			
Calcutta ...	681,560	Week ending 17th June 1893.	17	...	...	143	36	...	147	343	26·2	...	...
,, ...	,,	24th ,, ,,	12	...	...	127	28	...	150	317	24·2	...	...
,, ...	...	1st July 1893.	7	...	...	115	46	...	171	339	25·9	...	...
,,		8th ,, ,,	3	1	...	120	29	...	161	314	24·0	...	...
,,													
Bombay ...	821,764	6th June 1893.	3	9	...	149	21	...	297	479	31·31	...	...
,, ...	,,	13th ,, ,,	2	3	...	138	27	...	268	438	27·71	...	...
,, ...	,,	20th ,, ,,	...	4	...	101	32	...	260	397	25·12	...	...
,, ...	,,	27th ,, ,,	2	2	...	121	27	...	301	453	28·66	...	...
,, ...		4th July 1893.	4	8	...	75	37	...	277	401	25·37	...	...
Madras ...	452,518	9th June 1893.	...	...	15	37	44	...	168	314	36·0	356	40·9
,, ...	,,	16th ,, ,,	...	1	13	109	41	...	133	297	34·1	337	38·7
,,	,,	23rd ,, ,,	...	...	11	103	42	...	169	325	37·3	327	37·5
,,	,,	30th ,, ,,	...	...	12	115	33	...	138	298	34·2	347	39·8
,, ...	,,	7th July 1893.	1	1	5	123	44	...	148	322	37·0	402	46·4
Delhi ...	...	June 1893.	...	1	...	191	33	7	179	411	...	380	...
Rangoon ...	...	16th June.	2	2	...	33	16	2	67	122	35·18	...	...
,, ...	...	23rd ,, ,,	...	...	...	36	8	...	63	107	30·86	...	...
,, ...	...	30th ,, ,,	...	1	...	44	8	13	92	158	45·56	...	...
,, ...		7th July ,,	...	...	1	39	16	...	72	128	36·91	...	...
Naini Tal Dist.	362,248	May 1893. ,,	6	52	...	970	100	13	24	1165	3·22	932	2·5
Moradabad ,,	1,179,398	,, ,,	8	53	...	4094	344	40	697	5256	4·44	4198	3·56
Bareilley ,,	1,040,691	,, ,,	11	211	...	2334	192	47	306	3101	2·98	3602	3·46
Saharanpore ,,	1,001,280	,, ,,	103	1	...	2656	128	37	59	2984	2·98	3390	3·38
Meerut ,,	1,391,458	,, ,,	37	1	...	2829	20	49	18	2954	2·12	4132	2·97
Agra ,,	1,003,796	,, ,,	3	14	...	1253	134	60	318	1782	1·77	2593	2·58
Sitapur ,,	1,075,413	,, ,,	141	58	...	1947	20	49	146	2361	2·20	3552	3·30
Cawnpore ,,	1,209,695	,, ,,	1	2	...	1983	23	44	412	2465	2·04	2888	2·39
Allahabad ,,	1,548,737	,, ,,	7	15	...	2562	34	85	416	3119	2·01	3887	2·51
Fyzabad ,,	1,216,959	,, ,,	211	3	...	1809	53	49	350	2475	2·03	3571	2·93
Goruckpore ,,	2,994,057	,, ,,	134	76	...	2352	514	145	1647	4868	1·62	8137	2·72
Benares ,,	921,943	,, ,,	101	15	...	1512	61	58	314	2061	2·23	2097	2·27

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Medical News and Comments.

Mr. Ibbetson and Doctor Cleghorn, of the Cantonment Act Commission, have been instructed to leave Simla for London to give evidence before Mr. Russell's Committee. It would appear that Mr. Ibbetson and his colleagues on the Commission have found that certain evasions of the orders of Parliament, in connection with the C. D. question, have occured in some cantonments, but there is no evidence implicating the authorities at head-quarters. Abundant testimony has been forthcoming to prove that the statements made by the two ladies sent out by the "Purity" party in England, are full of misrepresentation and exaggeration. The personal attacks made by Mr. Stead and others upon the Viceory and Lord Roberts were absolutely unwarranted, and this will be clearly established, before the Departmental Committee has completed its work.

The next meeting of the Pasteur Institute Committee will take place in Simla early in this month, after which the programme will be published, and the work of collecting funds will commence. Dr. Simpson, the Health Officer of Calcutta, has joined the Committee.

The Maharaja of Patiala, with about fifty of his Sirdars, was inoculated for Cholera by Professor Haffkine at Kasauli on the 3rd of last month. The Maharana of Dholepore is also anxious to be inoculated as an example to his people, but owing to the number of M. Haffkine's engagements he has not yet been able to fix a date for visiting the State. At present he is operating at Rajpura and Patiala, and his coadjutor Dr. Earle, at Sanawar.

Miss Sundarabhai Krishna Row is one of the young ladies who recently passed the Apothecary's test of the Madras Medical College. She is, we believe, the second Native Christian lady who has qualified herself as an Apothecary. She is the daughter of Mr. Krishna Row, Inspecting School Master attached to the London Mission, Bangalore. Her services have been engaged by the Mysore Government, at whose expense she has been trained.

The Ganja Commission assembles in Calcntta on the 1st of this month. Mr. McIntosh, Under-Secretary to the Bengal Government, will act as Secretary to the Commission.

It has been ruled that any period passed by a Hospital Assistant on leave in excess of the maximum limit of twelve months in five years, shall not be considered service towards promotion, but additional leave to the extent of six months in five years, when granted on account of sickness distinctly attributed to active service or exceptionally hard work, or eighteen months in all, may be allowed to count towards promotion.

Chicago Honors for a Native of Bengal.—Dr. Protab Chandra Mozumdar, L.M.S., a practitioner of this city, has received the M.D., of that University, and the Vice-Presidentship of the clinical section of the World's Congress at the Chicago World's Fair. He is now at Chicago.

The Microscopical Society.—Mr. T. H. Holland of the Geological Survey has been elected President of this Society in the place of the late Mr. Wood-Mason, who died recently while on the voyage to England. Mr. W. Osmond has joined the Council of the Society.

Dr. Eustace, of the Church Missionary Society has offered to afford medical relief to the people of Khelat gratis. He has accompanied the column under Major Peil, and no doubt the sick and maimed will keep his time fully occupied. Although there is a dispensary in Khelat itself with an Assistant-Surgeon in charge, yet the advent of a Feringhee hakim will draw a large number of patients. Dr. Eustace, who is acquainted with Persian, has done good work towards the Persian Gulf, and will, doubtless, succeed quite as well in the capital of Beluchistan.

The Report of the Leprosy Commission is to be referred to the local administrations for consideration as a preliminary to the subject being taken up by the Government of India. So far as can be seen, it is most unlikely that the compulsory segregation of lepers will be enforced, as the Commissioners did not consider such a policy advisable, and they were supported in their view by some at least of the members of the London Committee.

The Subordinate Medical Department.—The Lieutenant-Governor of Bengal recently submitted certain proposals to the Government of India "for raising the initial educational standard and the subsequent professional attainment required from members of the Apothecary branch of the Medical Department." We are glad to learn that the Government of India has agreed that on the passing of the final examination, a diploma should be granted to successful students, and concurs that the Secretary of State should be asked to allow the title Apothecary to be altered to Assistant-Surgeon, Indian Medical Service, as being a more appropriate and natural definition.

We hear (says the *Broad Arrow*) that Lord Kimberley, in reply to the deputation from the British Medical Association in regard to certain disadvantages under which Medical Staff officers serving in India labour, is inclined to consider the question of charge pay to the senior medical officers of large hospitals, but his lordship declines to adjust the pay of brigade-surgeons, lieutenant-colonels, and the junior ranks. This decision on the part of the Secretary of State for India is distinctly retrograde, and will certainly bring about a feeling in the medical schools among those likely to compete for Army appointments, that it is a distinct disadvantage pecuniarily for young Army medical officers to serve in India.

Royal College of Surgeons of England.—The following gentlemen, having passed the necessary examinations, have been admitted Fellows of the College:—Messrs. Ferdinand C. Smith (Surg-Major, Indian Medical Service), L.R.C.P. Lond., University College Hospital; Charles F. Marshall M.D. Victoria, Owens College, Manchester, and St. Bartholomew's Hospital.

Dispensaries in Burmah.—More than six per cent of the total population in Lower Burmah, and nearly five per cent in the upper province, resorted to Government dispensaries last year for treatment. So popular, indeed, are these institutions

becoming that the supply of medical subordinates to take charge of them has completely broken down. Men have been obtained on loan from all the Indian Presidencies till those Governments could no longer assist. All leave except on medical grounds has been practically stopped and yet it has been a matter of great difficulty to meet the applications for aid. An attempt is now being made to train a number of men in the medical schools of Madras and Lahore specially for the purpose, and inducements are recommended to be offered to the more advanced private students in these places to accept service in Burma. In the meantime, proposals are under the consideration of the Chief Commissioner, for the establishment of a Medical School in Rangoon, for the training of hospital assistants. Nothing could show more plainly the absence of prejudice upon the part of the ordinary Burman than the readiness with which he avails himself of the medical aid offered by the dispensary system, for the health of the people as a whole appears to be fairly good and there is a remarkable paucity of cases requiring surgical assistance, which would be those most likely to be brought in for treatment. Though the people crowd to the dispensaries upon the slightest excuse there is such a general absence of the mal-nutrition which is so fruitful a source of serious complications in India that major operations are rarely necessary. Statistics show that the Burman dies off eventually like everybody else, but the life he leads is so healthy and free from care, and he is almost invariably so well nourished that provided he escapes epidemic disease, his ailments are generally slight, and the task of doctoring him is comparatively easy.

Sanitation Committee of Madras.—The Committee of Sanitation of Madras has submitted their Report. Judging from the filthy condition of Madras we do not suppose that the Committee has made any very extraordinary or extravagant suggestions. It has suggested better building regulations in place of the existing ones. Out of a total of 314 miles of road 151 miles remains to be metalled, and the Committee has suggested to take this at once to hand. It would cost about 3000 rupees per mile. It has also suggested the appoinment of 8 additional inspectors who would inspect the food supplies of the particular ward in which each is to be posted over and above their duty to inspect conservancy and the nuisance. The question of disposing of refuse has not been finally decided. The Health Officer would be deputed to examine the system of working of incinerators at Bombay and Calcutta and action should be suspended till the receipt of his report. As regards the establishment of a municipal market the question has not at all been taken up. But we suppose that it would be ere long before Madras would have its own municipal market as we have here in Calcutta.

The Secretary of State for War is very likely to concede the point of a return to five years' foreign service for Army Medical Staff officers, which in itself will be an achievement, for undoubtedly there is much thinning of the active list by the frequent and prolonged foreign tour.

It is proposed to embark upon a very large scheme of water-supply for Rangoon.

Surgeon-Major Coates, Civil Surgeon, Lahore, has been granted privilege leave for three months from the 11th of July 1893. Surgeon-Captain F. H. Burton-Brown, Officiating Professor, Lahore Medical College, will act for Dr. Coates.

The death is recorded of Miss Emma M. Person, who was one of the first and most active lady nurses sent out to the seat of war between France and Prussia by the Red Cross Society, under the auspices of the Order of St. John of Jerusalem. She died at Florence at the age of 65.

The Agra Cantonment Hospital.—The expenditure of fourteen thousand rupees has been sanctioned for the construction of a cantonment hospital at Agra.

The following students of the Calcutta Medical School passed the final examination held in May 1893:—Second division (in order of merit)—Jogendra Chandra Roy (Dr. L. M. Mukerjee's Medal) and Banwari Lall Day, (Gopi Mohan Kabiraj's Medal.

Surgeon-Major G. W. P. Dennys, Civil Surgeon, Delhi, has been granted privilege leave for 2 months and 29 days from the 20th July 1893. Assistant-Surgeon Mul Chand, in charge of the Delhi Civil Dispensary, will act for Dr. Dennys.

At Murree the complaint is justly made that there is no physician to attend to the Native community. The Civil Surgeon has neither time nor is probably expected to do so, and there are very few Indians who can pay his fee. Will not the Punjab Government recognise the humanity of appointing an Assistant-Surgeon, or a Warrant Medical Officer at Murree?

The Medical Board.—We much regret to announce that Deputy-Surgeon General S. B. Partridge, in consequence of failing eyesight, has felt constrained to resign his appointment as member of the India Office Medical Board. This post is tenable for three years, and is open to retired members of the Indian Medical Service residing in or near London. The salary is £3000 a year.

Now that the appointment of an officer at the India Office Medical Board is vacant on the resignation, through ill-health, of Deputy Surgeon-General Partridge, it is hoped that the strong claims of Dr. C. N. Macnamara, retired Surgeon-Major Indian Medical Service, will receive from Lord Kimberley the consideration they deserve. Dr. Macnamara, by his treatises on cholera and leprosy, has done much to enrich Indian medical literature, his valuable services also on the Camperdown Commission should not be lost sight of. The high position he holds among London consulting surgeons is proof of his ability to replace Deputy Surgeon-General Partridge who had worthily gained large popularity. Then, there are the claims of Brigade-Surgeon Lt.-Colonel Kenneth Mcleod, regarding whose ability and the services he has renderd to this country, require no mentioning from us. As rumors allude to retired officers of the sister medical service (the A.M.S.) becoming applicants, it is well to say that, none but retired Indian Army surgeons are eligible.

An examination of candidates for twelve commissions in the Medical Staff of Her Majesty's Army will be held at the University of London, Burlington Gardens, W. (by permission of the Senate), on the 14th of August, and following days.

Brigade-Surgeon Lieutenant-Colonel C. A. Atkins is under orders of preparation for foreign service. He will proceed in relief of Surgeon-Colonel J. Warren, who obtains promotion by the retirement of Surgeon Major-General W. M. Webb on the 6th July.

The next Brigade-Surgeon Lieutenant-Colonel for foreign service will be Brigade-Surgeon Lieutenant Colonel C. McD. Cuffee, C.B., now P.M.O., Belfast, who will on promotion be called on to fill the vacancy occurring by the advancement to higher grade of Surgeon-Colonel J. Davis, P.M.O. at Mhow.

The Lahore paper laments the paucity of female medical students at the several medical institutions which exist at Lahore for their special behoof. It is pointed out that, at the recent examinations of the Lahore Medical College, only one female—a Native Christian—qualified as a Hospital Assistant, and yet the demand for this class of practitioners, and the higher trained Assistant-Surgeon, continues great, and Municipalities have still to look outside the province for doctors to take charge of their female hospitals and wards. The reason for this defect is not quite apparent, and it is about time that Lahore began to attract more of this class of students.

Spring "Lavergne" Vichy Water.—We have lately given this mineral water a careful and thorough trial in cases of obstinate constipation and dyspepsia, also in cases of congestion and torpid liver, and have found it to act admirably. It is very well suited for delicate constitutions in an Indian climate, and we have much pleasure in drawing the attention of the profession to it.

Pooree is swarming with pilgrims, and the lodging-houses *dharmasalas*, and all the available vacant spaces are densely packed. The number of pilgrims is estimated at nearly a hundred thousand and they are still arriving. Cholera, so far is practically *nil*, the disease is generally nothing serious, while the weather is most propitious. The greatest order prevails, despite the enthusiasm.

There are 150,000 "schnapps" houses in Belgium—a drinking-house to every 15 adult males.—*Echo, May 9th, 1893.*

Five hundred children under ten years of age, have been taken into custody in twelve months in London, as drunk and incapable.—*Humanitarian.*

Surgeon-Captain Lane will be given civil employment in the Punjab shortly.

As we are going to press, information reaches us that there is every probability of Deputy-Surgeon-General Partridge's vacancy at the India Office Medical Board being filled by Brigade-Surgeon Lieutenant-Colonel Kenneth McLeod, M.D., retired, Indian Medical Service.

Correspondence.

THE SNAKES OF INDIA.

To the Editor "The Medical Reporter."

Dear Sir,—With reference to Dr. Amesburys' valuable suggestions, I have to say, that the matter spoken of is not kept out of view. As the information published is progressive, therefore, at the conclusion of the topic, a synoptical statement will be given, shewing the snakes that are deadly, venemous, or partly so. I shall include nothing in my work, but what is practical.

Pachbadra, 4th July, 1893.

Yours faithfully,
R. P. Banerjee, B.A., G.B.M.S.L.

THE ARMY MEDICAL SERVICE.

To The Editor "The Medical Reporter."

Dear Sir,—I was glad to see from your last issue that you have given publicity to the efforts being made at home, to have the grievances of the medical staff redressed. The extended tour of service in India is a much felt hardship and it is to be hoped that this, and the grievances of the Indian medical service, will soon receive the attention of those responsible for the present condition of affairs. Your views of the matter are very liberal.

Yours faithfully,
Surgeon-Captain.

Government Medical Notifications.

GAZETTE OF INDIA.

No. 341.—The services of Surgeon-Captain C. L. Williams, M.D., I.M.S. (Madras), are replaced at the disposal of the Government of Madras.

No. 356.—The services of Surgeon-Captain J. W. Wolfe, I.M.S. (Bengal), are placed temporarily at the disposal of the Chief Commissioner of Burma.

No. 358.—The services of Surgeon-Captain H. R. C. Barber, I.M.S. (Bengal), are placed temporarily at the disposal of the Government of the Punjab.

No. 1100-G.—Surgeon-Major G. S. Robertson, C.S.I., Indian Medical Service (Bengal), Agency Surgeon at Gilgit, is appointed, on return from special duty, to officiate as British Agent at Gilgit, with effect from the 7th June, 1893, and during the absence on deputation of Lieutenant-Colonel A. G. A. Durand, C.B., or until further orders.

No. 1104-G.—Surgeon-Captain E. C. Hare, Indian Medical Service (Bengal) Officiating Medical Officer, 35th Bengal Infantry, is appointed to the medical charge of the Bundelkhand Political Agency, in addition to his military duties, with effect from the 13th May, 1893.

No. 1109-G.—The services of Brigade-Surgeon-Lieutenant-Colonel J. H. Newman, M.D., Indian Medical Service (Bengal), Residency Surgeon and Chief Medical Officer in Rajputana, are placed temporarily at the disposal of the Home Department, with effect from the date of relinquishing charge.

No. 625.—The undermentioned Surgeon-Lieutenants, appointed to the Bengal establishment in G. G. O. No. 260 of 1893, reported their arrival at Bombay on the date specified:

William Young
John Joseph Bourk
John Norman Macleod
} 22nd April 1893.

No. 10.—First grade Hospital Assistant No. 230, Mumtaz Husain, attached to the Medical Store Depôt, Mian Mir, has been granted privilege leave for 60 days from 15th April, 1893, or from the date he availed himself of it.

No. 11.—Assistant-Surgeon Shashi Bhusan Kumar, of the North-Western Provinces and Oudh Provincial Establishment, is permitted to resign the service of Government.

No. 12.—Third grade Assistant-Surgeon Harnam Dass, of the Imperial Establishment, is granted three months' privilege leave, under Articles 227 and 291, Chapter XII, of the Civil Service Regulations, with effect from the date he may avail himself of it.

No. 13.—Assistant-Surgeon Annada Prasanna Ghatak, of the Bengal Provincial Establishment, is permitted to resign the service of Government.

No. 14.—Assistant-Surgeon Bhagat Ram Sawhny, of the Punjab Provincial Establishment, is permitted to resign the service of Government.

No. 15.—Assistant-Surgeon Nogendra Kumar Mullick, of the Bengal Provincial Establishment, is dismissed from the service of Government.

No. 376.—The services of Surgeon-Lieutenant W. Young, I.M.S. (Bengal), are placed temporarily at the disposal of the Chief Commissioner of Assam.

No. 378.—With effect from the date of assuming charge, Brigade-Surgeon Lieutenant-Colonel J. H. Newman, M.D., I.M.S. (Bengal), Residency Surgeon and Chief Medical Officer in Rajputana, is appointed to officiate as Inspector-General of Civil Hospitals, Bengal, during the absence on privilege leave of Surgeon-Colonel J. G. Pilcher, or until further orders,

No. 1140-G.—Surgeon-Lieutenant-Colonel J. T. B. Bookey, Indian Medical Service (Bengal), Medical Officer, 6th Punjab Infantry, Punjab Frontier Force, is appointed to officiate as Medical Officer of the Bhopal Battalion and of the Bhopal Political Agency, with effect from the date of assuming charge, and during the absence on furlough of Surgeon-Major A. H. C. Dane, M.D., or until further orders.

Surgeon-Major H. P. Yeld (Bengal Establishment), Deputy Assay Master, Bombay, is appointed to officiate as Assay Master, Bombay.

No. 2896-*P.*—Surgeon-Captain J. L. T. Jones (Bombay Establishment) is appointed a Probationer in the Assay Department, Calcutta Mint.

No. 1176-*G.*—Surgeon-Major A. Adams, M. D., Indian Medical Service (Madras), Residency Surgeon in the Western States of Rajputana, is appointed to officiate as Residency Surgeon and Chief Medical Officer in Rajputana, with effect from the date of assuming charge, and during tbe absence of Brigade-Surgeon Lieutenant-Colonel J. H. Newman, M. D., whose services have been placed temporarily at the disposal of the Home Department, or until further orders.

No. 665.—Brigade-Surgeon-Lieutenant-Colonel G. C. Ross, Indian Medical Service, Bengal establishment, is granted the temporary rank of Surgeon-Colonel, with effect from the 16th June 1893, whilst officiating as Administrative Medical Officer and Sanitary Commissioner, Central Provinces, *vice* Surgeon-Colonel G. Thomson, M. B., appointed officiating Principal Medical officer, Lahore District.

No. 666—Brigade-Surgeon-Lieutenant-Colonel J. H. Newman, M. D., Indian Medical Service, Bengal establishment, is granted the temporary rank of Surgeon-Colonel, with effect from the 4th July 1893, whilst officiating as Inspector-General of Civil Hospitals, Bengal, during the absence on leave of Surgeon-Colonel J. G. Pilcher.

No. 667.—The undermentioned Surgeon-Lieutenants, appointed to the Bengal establishment in G. G. O. No. 260 of 1893, reported their arrival at Bombay on the date specified:

Cedric Barkley Prall
Richard Heard
Vivian Godfrey Drake-Brockman } —22nd April 1893.

Hospital Assistant Joti Prasad, on reserve duty at Etah, to the charge of the Sandila branch dispensary, Hardoi, as a temporary measure.

Assistant Surgeon Hira Lal Das, attached to the sadar dispensary, Hardoi, to the charge of the sadar dispensary Philibit, and to hold charge of the civil medical duties of that district, in addition, as a temporary measure.

Assistant Surgeon Iktidar-uddin, from the charge of the Sandila branch dispensary to that of the sadar dispensary, Hardoi.

No. 3433.—Surgeon-Captain W. R. Edwards, M.D., having returned from the two months' privilege leave granted him in Notification No. 2084, dated 20th April, 1893, assumed charge of the duties of Civil Surgeon, Quetta, from Surgeon-Captain Ashton Street, M.B., F.R.C.S., in the forenoon of the 20th June, 1893.

C. P. GAZETTE.

No. 4812.—Privilege leave for one month, under Article 291 of the Civil Service Regulations, is granted to Mr. T. W. Quinn, Officiating Civil Surgeon and Superintendent of the Jail, Wardha, with effect from the 1st July 1893, or the subsequent date on which he may be permitted to avail himself of it.

No. 4813.—Assistant Surgeon Lakhmi Narain Choudri is appointed to officiate as Civil Surgeon, Wardha, during the absence on privilege leave of Mr. T. W. Quinn, or until further orders.

No. 4814.—Under Section 8 of Act XXVI of 1870 (the Prisons Act), the Officiating Chief Commissioner is pleased to appoint Assistant Surgeon Lakhmi Narain Choudri, Officiating Civil Surgeon of Wardha, to the medical charge of the Wardha Jail.

No. 47.—Third Class Civil Hospital Assistant Abdulla Bhai, doing duty under the orders of the Civil Surgeon, Nagpur, is directed to do duty under the orders of the Civil Surgeon, Bhandara.

No. 48.—Third Class Civil Hospital Assistant Balaji Baliram, doing duty under the orders of the Civil Surgeon, Saugor, is directed to do duty under the orders of the Civil Surgeon, Jubbulpore.

No. 49.—Fourteen days' sick leave was granted to 3rd Class Civil Hospital Assistant Alla Bux, attached to the Jail and Police Hospital, Bilaspur, in extension of the nine month' sick leave granted to him in this office Notifications Nos. 61, 77 and 91, and 12 and 19, dated respectively the 13th August, 1st November and 21st December 1892, and 2nd March and 5th April 1893.

Third Class Civil Hospital Assistant Alla Bux returned from leave and reported his arrival at the office of the Deputy Surgeon-General, Central Provinces, on the forenoon of the 1st June 1893, and he has been ordered to do duty under the orders of the Civil Surgeon, Nagpur, until further orders.

No. 5022.—Mr. T. W. Quinn, Officiating Civil Surgeon, Wardha, availed himself, on the forenoon of the 3rd instant, of the one month's privilege leave granted him by Notification No. 4812, dated the 28th ultimo, making over charge of his duties to Assistant Surgeon Lakhmi Narain Choudri.

No. 5023.—With reference to Notification No. 4814 dated the 28th ultimo, Mr. T. W. Quinn and Assistant Surgeon Lakhmi Narain Choudri respectively made over and assumed medical charge of the Wardha Jail on the forenoon of the 3rd instant.

No. 5024.—With reference to Notification No. 4815, dated the 28th ultimo, Messrs. T. W. Quinn and G. H. Sherlock-Hubbard respectively made over and assumed executive charge of the Wardha Jail on the forenoon of the 3rd instant.

No. 50.—First Class Civil Hospital Assistant Wartharajulu was directed to do duty under the orders of the Civil Surgeon Bhandara, at Sakoli on the 25th and 26th November 1892,

No. 5134.—Privilege leave for three months, under Article 291 of the Civil Service Regulations, is granted to Surgeon-Major J. L. Poynder, Civil Surgeon, Sambalpur, with effect from the 10th instant, or the subsequent date on which he may avail himself of it.

No. 5135.—Surgeon-Captain E. G. R. Whitcombe, 7th Bombay Infantry, Sambalpur, is appointed to officiate as Civil Surgeon, Sambalpur, in addition to his own duties, during the absence on privilege leave of Surgeon-Major J. L. Poynder, or until further orders.

No. 5136.—Under Section 8 of Act XXVI of 1870 (the Prisons Act), the Officiating Chief Commissioner is pleased to appoint Surgeon-Captain E. G. R. Whitcombe, Officiating Civil Surgeon of Sambalpur, to the executive and medical charge of the Sambalpur Jail.

No. 5176.—The three month's privilege leave granted to Surgeon-Captian E. C. Hare, Civil Surgeon, by Notification No. 2873, dated the 18th April 1893, has been commuted by Her Majesty's Secretary of State for India to leave on medical certificate for nine months.

No. 5219.—Apothecary E. P. Clements returned from the three months' privilege leave granted him by Notification No. 2392, dated the 4th April last, and resumed charge of the

office of Civil Surgeon and Superintendent of the Jail, Balaghat, from Mr. W. R. W. James, on the afternoon of the 7th instant.

No. 51.—Third Class Civil Hospital Assistant Bhagirath Pershad, attached to the Police Hospital, Nagpur, is directed to do duty under the orders of the Civil Surgeon, Nagpur.

First Class Civil Hospital Assistant Meer Burkat Ali, doing duty under the orders of the Civil Surgeon, Nagpur, is appointed to the Police Hospital, Nagpur.

No. 52.—The services of 2nd Class Civil Hospital Assistant Syed Sallar, doing duty under the orders of the Executive Engineer, Eastern Division, Rajpur, are placed at the disposal of the Chief Engineer, Central Provinces, for employment in the Chhattisgarh States Roads Division.

No. 53.—The services of 3rd Class Civil Hospital Assistant Baliram, doing duty under the orders of the Civil Surgeon, Nagpur, are placed at the disposal of the Chief Engineer, Central Provinces, for duty on the Seoni-Balaghat Road.

No. 54.—First Class Civil Hospital Assistant Kunj Behari Lal, having returned, on the forenoon of the 2nd July 1893, from the three months' privilege leave granted to him by Notification No. 31, dated the 18th April 1893, the unexpired portion of his leave is hereby cancelled.

First Class Civil Hospital Assistant Abdul Razak Khan, temporarily attached to the Harda Branch Dispensary, Hoshangabad District, on being relieved by Civil Hospital Assistant Kunj Behari Lal, is directed to do duty under the orders of the Civil Surgeon, Hoshangabad, until further orders.

No. 55—One year's furlough is granted to 1st Class Civil Hospital Assistant Wahiduddin, attached to the Armori Branch Dispensary, Chanda District, from the date he is relieved of his duties.

First Class Civil Hospital Assistant Abdul Razak Khan, doing duty under the orders of the Civil Surgeon, Hoshangabad, is temporarily posted to the Armori Branch Dispensary, Chanda District.

No. 56.—Third Class Civil Hospital Assistant Nand Kishore, doing duty under the orders of the Civil Surgeon, Nagpur, is appointed to the charge of the Jail and Police Hospital, Betul.

First Class Civil Hospital Assistant Behari Lal, attached to the Jail and Police Hospital, Betul, is appointed to the Mandhatta Branch Dispensary, Nirmar District.

Third Class Civil Hospital Assistant Latchman Pershad, attached to the Mandhatta Branch Dispensary, Nimar District, on being relieved by Civil Hospital Assistant Behari Lal, is directed to do duty under the orders of the Civil Surgeon, Nagpur.

No. 57.—First Class Civil Hospital Assistant Abdul Majid Khan, Deputy Superintendent, Lunatic Asylum, Nagpur, having returned, on the forenoon of the 10th July 1893, from the two years' furlough granted to him by Notification No. 15, dated the 8th February 1892, the unexpired portion of his leave is hereby cancelled.

First Class Civil Hospital Assistant Sheikh Abul Aziz, Officiating Deputy Superintendent, Lunatic Asylum, Nagpur, on being relieved by Civil Hospital Assistant Abdul Majid Khan, is directed to do duty under the orders of the Civil Surgeon, Nagpur, until further orders.

No. 58.—First Class Civil Hospital Assistant Sheikh Abdul Aziz, doing duty under the orders of the Civil Surgeon, Nagpur, is appointed to the Hatta Branch Dispensary, Damoh District.

First Class Civil Hospital Assistant Aulad Ali, attached to the Hatta Branch Dispensary, Damoh District, on being relieved by Civil Hospital Assistant Sheikh Abdul Aziz, is directed to do duty under the orders of the Civil Surgeon, Jubbulpore, until further orders.

No. 59.—First Class Civil Hospital Assistant Mahomed Haniff, attached to the Jail and Police Hospital, Bhandara, is appointed to the Gondia Branch Dispensary, Bhandara District.

Third Class Civil Hospital Assistant Abdulla Bhai, doing duty under the orders of the Civil Surgeon, Bhandara, is appointed to the Jail and Police Hospital, Bhandara.

ASSAM GAZETTE.

No. 6203G.—Privilege leave of absence for three months, under article 291 of the Civil Service Regulations, is granted to Second Grade Assistant Surgeon Narayan Chandra Basu, with effect from the date on which he is relieved.

No. 103.—The probationary period of Third-grade Hospital Assistant Kali Mohon Sen (2nd), is extended for another six months, with effect from the 15th June 1893.

No. 104.—Third-grade Hospital Assistant Brindaban Chundra Datta was employed on special duty as a Supernumerary at Mokokchang, from the 17th to the 26th April 1893, both days inclusive.

No. 106.—Third-grade Hospital Assistant Sita Nath Ray, in temporary medical charge of the Chhatak Dispensary in the Sylhet district, is, on relief, transferred to Cachar, and appointed temporarily to the subordinate medical charge of the Silchar Dispensary, with the coolie depôt in addition to his other duties, during the absence on privilege leave of Second-grade Assistant Surgeon Narayan Chandra Basu, or until further orders.

No. 107.—Sick leave for six months, under article 893 of the Civil Service Regulations, is granted to Second-grade Hospital Assistant Lok Nath Nath, in medical charge of the Civil Establishment at Changsil, with effect from the date on which he may be relieved of his duties.

No. 108.—Third-grade Hospital Assistant Ashab Ali, a Supernumerary in the North Lushai Hills, is appointed to the medical charge of the Civil Establishment at Changsil during the absence on sick leave of Hospital Assistant Lok Nath Nath, or until further orders.

No. 109.—Third-grade Hospital Assistant Nisi Kanta Bhattacharjya, a Supernumerary at Silchar, is transferred to the North Lushai Hills as Supernumerary for duty under the orders of the Civil Surgeon there.

No. 110.—Thir -grade Hospital Assistant Jamini Kanta Dhupi, Supernumerary at Sylhet, is transferred to Cachar as Supernumerary for duty under the orders of the Civil Surgeon there.

No. 111.—Third-grade Hospital Assistant Bepin Behari Chakravarti, a Supernumerary at Tezpur, is transferred to Sylhet as Supernumerary for duty under the orders of the Civil Surgeon there.

This cancels Medical Department Notification No.101, dated the 22nd June 1893, published in the *Assam Gazette* of the 24th idem.

No. 112.—Third-Grade Hospital Assistant Kali Mohan Sen (2nd), a Supernumerary at Sibsagar, is transferred to Nowgong, and posted for duty as a Supernumerary Hospital Assistant under the orders of the Civil Medical Officer there.

BURMA GAZETTE.

No. 312.—The services of Surgeon-Captain Kanta Prasad, M.B., I.M.S. (Bengal), are placed temporarily at the disposal of the Chief Commissioner of Burma.

No. 286.—Surgeon-Major P. W. Dalzell, M.B., made over aud Surgeon Lieutenat-Colonel D. Sinclair, M.B., on return from furlough, resumed charge of the duties of Inspector-General of Jails, with Civil Medical Administration, Burma, on the forenoon of the 27th June 1893.

No. 287.—Surgeon-Major P. W. Dalzell, M.B., availed himself of the privilege leave granted him in Judicial Depart-

ment Notification No. 241, dated the 3rd June 1893, on the forenoon of the 27th June 1893.

No. 288.—Surgeon-Captain U. N. Mukerji, M.B., officiating Secretary to Inspector-General of Jails, with civil Medical Administration, Burma, on availing himself of the privilege leave granted him in General Department Notification No. 119, dated the 13th June 1893, relinquished charge on the afternoon of the 16th June 1893.

No. 289.—Surgeon-Lieutenant R. A. Yeates made over and Surgeon-Captain C. Donovan assumed medical charge of the Civil Dispensary, Fort White, on the forenoon of the 11th April 1893.

No. 290.—First Grade Hospital Assistant No. 36, Syed Ally relinquished charge at the Railway Dispensary, Myitha, Kyauksè district, on the afternoon of the 15th June 1893, and assumed charge at the Civil and Police Hospitals, Kyauksè, on the forenoon of the 22nd June 1893.

No. 291.—Under paragraph 7 of Government of India, Home Department Resolution No. 16, dated the 9th January 1878, First Grade Hospital Assistant No. 36, Syed Ally assumed charge at the Lock-up, Kyauksè, as an additional duty on the forenoon of the 22nd June 1893.

292.—Second Grade Hospital Assistant No. 45, C. A. Chinnasawmy Pillay, on availing himself of six months' leave on medical certificate relinquished charge at the Police Hospital, Bhamo, on the forenoon of the 19th June 1893.

No. 293.—Second Grade Hopital Assistant No. 46, Jaga Sheer Lal, on transfer to Tharrawaddy, relinquished charge at the Police Hospital, Shwebo, on the afternoon of the 19th Juue 1893.

No. 294.—Second Grade Hospital Assistant No. 492, Villait Hussain, on return from privilege leave granted him in Notification No. 143, dated the 30th March 1893, assumed charge at the Police Hospital, Shwebo, on the afternoon of the 12th June 1893.

No. 295.—With reference to Notification No. 283, dated the 22nd June 1893, Third Grade Hospital Assistant No. 58, Raj Chunder Kur assumed charge at the Railway Dispensary, Myitha, Kyauksè district, on the afternoon of the 15th June 1893.

No. 296.—Third Grade Hospital Assistant No. 1223, Abdus Mahomed Samath made over and Third Grade Military Hospital Assistant No. 1236, B. C. Vedanayagum assumed submedical charge of the Civil Dispensary, Rowvan, Chin Hills, on the forenoon of the 20th June 1893.

No. 297.—Third Grade Hospital Assistant No. 90, Koilas Chunder Palit relinquished charge at the Police Hospital, Myitkyina, Mogaung subdivision, on the forenoon of the 20th May 1893, and assumed charge at the Outpost Hospital, Nikrang, Mogaung subdivision, on the afternoon of the 31st May 1893.

No. 279.—Surgeon-Major P. W. Dalzell made over and Surgeon-Lieutenant-Colonel D. Sinclair received charge of the office of Inspector-General of Jails, with Civil Medical Administration, on the 27th June 1893, before noon,

The undermentioned officers have passed Examinations in the Burmese Language according to the standards specified.

Higher standard.

Surgeon-Captain A. R. P. Russell, Civil Surgeon.

Assistant Apothecary E. Peacock.

Lower standard.

Surgeon-Captain R. H. Castor.

Elementary standard.

Surgeon-Captain T. W. Stewart, Civil Surgeon,—*with credit*.

Domestic Occurrences.

BIRTH.

GALLAGHER.—On the 4th July, at Byculla, the wife of Mr. J. Gallagher, House Surgeon, Sir J. J. Hospital, of a daughter.

DEATHS.

COTES—On May 4, at Bournemouth, Charles Edward Henry Cotes, B.A., M.S., M.B. Cantab, F.R.C.S., of 20, Wilton-street, S. W., younger son of the late Maj. C. Cotes, R.A., aged 33.

BARCLAY.—On the 19th June, at Clifton, Bristol, Amy Violet, eldest daughter of the late Surgn.-Genl. C. Barclay, Madras Medical Service.

HANNAY.—At Cawnpore, on the 3rd July, 1893, of heart disease, John Hannay, M.D., aged 38 years.

ORR.—On the 15th June, at Leverton, Cheltenham. Capt. C. J. Orr. 3rd Infantry, Hyderabad Contingent, third son of Dr. J. H. Orr, C.B.—aged 41.

Acknowledgments.

ANSWERS TO CORRESPONDENTS.

A. M.—We think the matter worth publishing. It might be got up in the shape of a small pamphlet.

Vaccinator.—A series of articles upon the subject appeared in our Volume I, for last year.

X.—Send to a lay paper.

L. M. S.—The differential stethescope would suit you.

Enquirer, London.—Enquire of our London Agents.

Candidate.—Green's Pathology, latest edition, would be quite sufficient.

Dr. G. S.—Next issue.

Dr. B. B. C.—We will make use of the notes you have sent us in an early issue.

Dr. G. B.—You will find the information in this issue.

Recipe.—The formulæ you require will be found in Martindale's extra pharmacopœia.

Dr. A. P. Dass, Calcutta.—Owing to publishing the Report of the meetings of the Burma Branch of the British Medical Association, we had no room in this issue for your interesting paper.

Qualified.—Our only remedy is a Medical Act. When the Government are going to give qualified men in this country this relief, we cannot say.

Communications have also been received from the following:—

Surgeon-Captain R. H. Castor, I.M.S. Myingyan, Burmah; Surgeon-Captain B. D. Basu, I.M.S. Ahmedabad; Dr. R. Nugent, L.R.C.P., and S.E., Calcutta; Dr. Sandel, M.B., C.M., Calcutta; Dr. Surbadhicary, M.D., Calcutta; Dr. Chew, M.D., Calcutta; Dr. A. P. Dass, L.M.S., Calcutta; Dr. B. B. Chatterjee, Bally; Dr. R. N. Ghosal, L.M.S., Calcutta; Dr. Chuckerbutty, Calcutta; Dr. A. C. Basu, M.B., Calcutta; Dr. S. C. Paul, Narail, Jessore; Dr. Egappa, L.M.S., Dachepalle; The Sanitas Co. Ld., London; Messrs Gordon and Gotch, London; Dr. T. N. Ghose, Assistant-Surgeon, Meerut; Dr. C. F. Britto, Rangoon; D. Robertson, Esq. S.M.D., Ootacamund; Dr. Ram Kishen, Amritsar; M. Ranade, Esq. Medical Practitioner, Sholapore; W. A. Banerjee, Goila;

Dr. Khan Bahadur Cheetun Shah, Ludiana; Dr. R. T. Gokhale, Assistant-Surgeon, Malegaon; Dr. Gunga Singh, Assistant-Surgeon, Benares; Dr. P. C. Bannerjee, Assistant-Surgeon, Benares; Dr. J. C. Day, M.B. Assam; Dr. Green, London; Dr. Wright, London; Dr. V. J. Pillai, M.B., Madras; Dr. Noronha, Madras; Dr. Leonard A. Bidwell, F.R.C.S., London; Dr. Lennox Moore, London; Dr. T. M. Shah, State Medical Officer, Juagadh; Dr. Mul Chand, Delhi; Dr. R. P. Banerjee, B A., G.B.M.S.L., Pachbadra, Rajputana; Dr. N. C. Mittra, M.A.,M.B., Ranchi.

Periodicals.—The Lancet—The British Medical Journal—The Edinburgh Medical Journal—Indian Medical Gazette—Journal de Mèdicine de Paris—Modern Medicine—Australian Medical Journal—The Sanitary Journal—The Medical and Surgical Journal—The Medical Times and Register—The Lancet-Clinic—The Medical Bulletin—The Medical and Surgical Reporter—The New York Medical Journal—The Family Doctor—The Medical Week—Health Messenger—Health—The Medical Record—British and Colonial Druggist—Chemist and Druggist—The Medical Review—New Orleans Medical and Surgical Journal—The Medical Monthly—The Scalpel—The Humanitarian—The Popular Science Monthly—The Sanitary Record—The Medico-Surgical Bulletin—The Southern Medical Record.—The Sanitarian—Doctor's Weekly—The Post Graduate—The Therapist—The Universal Medical Journal—The Medical Compend—The Medico-Chirurgical Review—The Medical Fortnightly—Notes on New Remedies.—The American Therapist.

Books received.—Transactions of the Burmah Branch of the British Medical Association (Hanthwaddy Press, Rangoon)—Catechism Series, Materia Medica, Part IV; Physiology, Part II (Edinburgh, E & S Livingstone)—A Report of experiments with Sanitas preparations and appliances, By A. B. Griffiths, Esq., Ph. D., F. C. S.—A Manual of Physical Culture (Peck and Snyder, New York).

Government Gazettes.—Gazettes of the Government of India, N. W. P. and Oudh, Burmah, Central Provinces, and Assam—G. O. C. C., By His Excellency the Commander-in-Chief.

Newspapers.—The Broad Arrow—The Home News—The Indian Daily News—The Statesman—The Eastern Guardian—The Evening Star—Newman's Bradshaw—Hope—The East—Bombay Native Opinion—The Bangalore Spectator—Nagpur and Berar Times—Progress—Punjab Patriot—Arrakan News—Rangoon Gazette Weekly Budget—The Express—Madras Advertiser—Behar Herald and Indian Chronicle—Bombay Guardian—Banner of Asia—Tribune—Beluchistan Gazette—Western Wit and Wisdom—Indian Empire—Gwalior Gazette—Eurasian Recorder—People's Friend—India Watchman—Messenger of Light—Indian Nation—Indian Union—Poona Observer—National Guardian—Indian Engineering—Courier—The Argus—The Bengal Times—Signs of the Times—The Indian Textile Journal—The Amrita Bazaar Patrika (Weekly Edition).

Notices.

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Original Articles.

DERMATOL—
A SUBSTITUTE FOR IODOFORM,

BY R. GLAESAR, M.D.,
ASSISTANT-PHYSICIAN AT THE UNIVERSITY GYNÆCOLOGICAL CLINIC, BRESLAU.

(AS COMMUNICATED TO THE IV. GYNÆCOLOGICAL CONGRESS IN BONN.)

Although we have been accustomed for a long time to regard iodoform as a convenient, active and almost harmless dry antiseptic, it possesses a number of unpleasant properties that make it desirable to find a remedy which shall have the advantages of iodoform without its drawbacks. I may therefore be allowed to report on such a remedy which was first extensively used in the clinic of Professor Fritsch, and has proved itself so far a substance of very useful and in many cases of superior activity, so that it seems worthy of more searching experiments.

The new remedy which has been called Dermatol by the discoverers has been prepared and experimentally tested in the Breslau Pharmacological Institute of Prof. Filehne by Drs. R. Heinz and A. Librecht.

Dermatol has a similar yellow colour to iodoform, but in contrast to it is perfectly odourless; further it is insoluble and very stable, so that it can be sterilised in the steam apparatus.

I first of all applied Dermatol to small external wounds, as also to old wounds of laparotomies in which epidermal defects would not properly heal over. Under these circumstances I observed that epidermal defects, when not too extensive, and raw surfaces, after the first application of Dermatol became very rapidly covered with a firm cicatrix, beneath which healing was effected without further secretion. No evidences were seen of any irritation in the adjacent parts.

Encouraged to extended trials by these results, we applied Dermatol to fresh laparotomy wounds. Here also a similar result was observed, *vis.*, after removal of the dressing there was practically no secretion, the wound was firmly cicatrised, and there was no where any trace of irritation.

Further, wounds of old standing with extensive tissue necrosis, and granulating wounds with large defects, were subjected to the Dermatol treatment. Here the success attained was almost disconcerting. The wounds closed up with a rapidity which I have never seen equalled, either from the application of ointments, from the treatment with camphor wine or the like. Altogether I have had such remarkable results from the Dermatol-treatment of laparotomy wounds that, I cannot sufficiently recommend the preparation for fresh wounds. If immediately after the removal of the sutures, Dermatol be energetically applied, and thereover a zinc-paste dressing, the patient is saved from the troublesome bandage or adhesive plaster dressing. After two days if the zinc-paste comes away, the cicatrisation of the wounds is already so firm that the patient can be allowed to bathe without anxiety.

After these encouraging results, Dermatol could be more boldly applied—in purulent carcinomata, intra-uterine, and so forth. In all cases there was immediately a considerable diminution of secretion; granulations which had previously looked discoloured and indolent assumed a healthy red. Wounds with great defects for instance, burns, progressed exceedingly well.

One point should not be forgotten. In consequence of the slight secretion, adhesion may easily occur between the dressing material and the granulating surface. I have therefore first of all laid a piece of silk over the wound, since then have been entirely successful.

In accordance with the experimental results of the discoverer, Dermatol has proved itself to be perfectly non-poisonous. Similarly no unpleasant local action was ever evidenced. On the contrary, eczema from the use of idoform-adhesive-plaster improved at once under the use of Dermatol,

Recently Dermatol was employed also in total extirpation in deep-seated myomata, for several weeks in a case of extra-uterine pregnancy, where the sac could not be removed, in exudations, and in enucleated tuberculous peritoneal abscess. These cases also progressed favourably.

Dermatol is an insoluble and non-caustic body, consequently in infectious catarrh of the vagina, of the cervix, of the endometrium, and shortly in cases in which penetrating, soluble medicaments are indicated, success is not to be expected with this remedy.

Whether further Dermatol will prove suitable for displacing iodoform in the treatment of tuberculous cavities appears questionable.

Having regard however to what has been actually demonstrated, we cannot escape the conclusion, that Dermatol in suitable cases offers so many advantages over other similar remedies that, it does not seem too bold to prophesy for it a great future, and to place it on a level with the best approved vulneraries.

With regard to chemical composition, Dermatol is a bismuth sub-gallate. It is introduced into cemmerce by the Farbwerke vorm. Meister Lucius & Bruning, Hoechst on the Main; our investigations also were carried out only with the material placed at our disposal by the firm named.

In conclusion I may briefly sum up the favourable properties of Dermatol as follows:

(1) Dermatol is perfectly non-poisonous.

(2) Dermatol is absolutely unirritating.
(3) Dermatol is antiseptic.
(4) Dèrmatol has an eminent drying action.
(5) Dermatol is an excellent vulnerary.
(6) Dermatol finally is convenient, odourless, stable, unaffected by air or light, and sterilisable by steam.

THE THERAPEUTIC VALUE OF OXYGEN INHALATION.

By A. C. Basu, M.B.,
Lecturer in Anatomy
Calcutta Medical School.

The inhalation of oxygen as a therapeutic agent dates almost as far back as its discovery in 1774 by Priestley. Since then it has been used in various diseases with very varying success. This difference in effect is explained when we come to see the very indiscriminate way in which it has often been used, thus, while on the one hand it has been used, and rightly so, to relieve the dyspnœa in cases of deficient aëration of the blood from obstruction to the entrance of air into the lungs, or from diminished lung-surface for aëration, it has on the other hand been used, with what object it is difficult to understand, in cases where the deficient aëration was dependent on deterioration of the oxygen-absorbing power of the blood. Carefully conducted experiments by several eminent physiologists have established certain facts that will help us in the proper and discriminate use of this valuable and powerful remedial agent.† These facts as collected from a paper by Dr. W. G. Thompson of New York, who has himself experimented largely with the gas, may be briefly stated thus :—

1. The hæmoglobin of the red blood corpuscles is the main agent in carrying oxygen to the tissues. This, called the respiratory oxygen, enters into loose chemical combination with hæmoglobin (forming oxy-hæmoglobin) and is in this state carried into the capillaries. Here it is readily parted with, and an interchange of it with the carbonic acid of the tissue elements takes place through the intervention of the lymph spaces.

2. The plasma carries very little oxygen, not over 2 per cent by volume.

3. Under normal conditions, the blood while passing through the pulmonary capillaries becomes very nearly saturated with respiratory oxygen.

4. In saturating hæmoglobin with oxygen the atmospheric air gives up less than a fourth of the oxygen it contains, the remaining three-fourths passing out unused with the expiration.

5. The amount of oxygen thus absorbed by hæmoglobin and plasma remains practically the same, whether atmospheric air or pure oxygen be used.

6. Under given conditions of healthful circulation and respiration, but very little additional oxygen can be made to enter the blood by any degree of pressure short of that which mechanically interferes with those conditions.

† The *Practitioner*.

7. Some experiments of Dr. Thompson tend to prove that oxygen under moderately increased tension relieves some forms of dyspnœa.

From these it is evident that the amount of oxygen absorbed by the blood depends chiefly upon the quantity and quality of its hæmoglobin. If the red corpuscles diminish in number, or their hæmoglobin so far as its oxygen carrying function is concerned, be deteriorated, the amount of oxygen absorbed from the atmospheric air becomes proportionately less. The substitution of oxygen for air in these cases is not therefore expected to improve matters. So that as far as our present knowledge goes, the object of the use of oxygen in preference to pure fresh air in anæmia, leuchæmia, chlorosis, exhaustion of fevers, &c., cannot be explained, and it is in these cases that so much difference of opinion is met with about its efficacy. The same may be said about its use in the dyspnœa caused by gases containing carbon mon-oxide (which forms stable compounds with the hæmoglobin of the blood, and thus interferes with its oxygen-carrying power), and those cases of specific blood poisoning in which the hæmoglobin is more or less destroyed. Some authorities assert that oxygen is a powerful cardiac tonic and stimulant, and recommend its use in all cases of heart-failure with their usual symptoms, as headache, angina pectoris, and dyspnœa, from the resulting pulmonary congestion. But, in the present state of our knowledge, we fail to understand how a large proportion of oxygen in air, or even pure oxygen itself, can be expected to do any good in these cases. The relief of dyspnœa is also inexplicable. In heart-failure, the blood stagnates in the systemic as well as in the pulmonary circulation. Although in the latter its slow rate favors its thorough aëration, in the systemic circulation more carbonic acid and nitrogenous poisons accumulate than can be got rid off by the lungs, owing to the sluggish course of the blood through these organs, the resulting dyspnœa cannot therefore be relieved by the inhalation of oxygen. In actual practice, many authorities have failed to derive any benefit from its use in cases of heart-failure. Further clinical experience is therefore necessary to establish the stimulating action of oxygen on the heart.

I now come to those cases in which the efficacy of oxygen is almost unanimously acknowledged and its clinical use considered legitimate. These are cases in which dyspnœa is caused by a defect in the respiratory apparatus, while the red blood corpuscles are healthy enough to carry on oxygenation of the tissues. In these cases, nature tries to supply the general system with its proper amount of oxygen, by hurrying the circulation and respiration, and by dilating the capillaries of the lungs. But there is a limit beyond which the efforts of nature becomes useless, and when that limit is exceeded, the patient becomes cyanotic and is threatened with asphyxia. It is in these cases that oxygen has proved a very powerful agent in our hands. It does what the atmospheric air however frequently drawn in could not possibly do. It promptly averts the threatening asphyxia, removes the cyanosis, reduces the frequency of the pulse and respiration, and improves their

Liliuokalani

Our Portrait Gallery.

INDIAN MEDICAL CELEBRITIES.

By Surgeon-Captain B. D. Basu, I. M. S.

1. Tribhuvandas Motichand Shah, L.M.S.

Rhinoplasty had its origin in India. The frequency with which mutilation of the nose was had recourse to in ancient times, led Indian Surgeons to devise the operation. In modern times no one has had so many cases of mutilated noses to treat as the subject of this sketch. Dr. Tribhuvandas has made himself well known to the profession by his century of Rhinoplastic operations.

Dr. Tribhuvandas was born at Junagadh, in Kathiawad, in the year 1850. He is Jaina by caste. He entered the Grant Medical College in 1867. His college career was one of brilliant success. Year after year he carried away prizes and scholarships, and earned the golden opinions of the professors. In 1871, he passed the final examination in Medicine of the Bombay University, with great credit. He was the first amongst the successful candidates, and was awarded a gold medal.

In 1872, he was appointed Assistant-Surgeon in the Bombay Medical Establishment, and was placed in charge of the Kelva Mahan Dispensary. In 1876 he was transferred to Wadhwan in Kathiawad, where he served for three years till his appointment as Teacher of Surgery and Midwifery in the Ahmedabad Medical School, in 1879. In 1885, his services were lent to the Native State of Junagadh. Of this premier Native State of Kathiawad—a State which has distinguished itself by patronising art and literature, Dr. Tribhuvandas was appointed Chief Medical Officer. It is not only within the area of the Native State of Junagadh, but throughout Kathiawad, Dr. Tribhuvandas' name is well known as a brilliant surgeon. The hospital under his charge is frequented by patients from the remotest corners of Kathiawad, and shows increase of surgical operations, as well as of out and in-door patients every year.

Dr. Tribhuvandas was the first amongst the Jaina community to enter the medical profession. His monograph on Rhinoplasty, published in 1889, is a record of one hundred cases performed within a period of four years. This is illustrated with photographs of the patients operated on. Medical and lay journals of England, as well as of India, have very favorably noticed this work.

His pamphlet on one hundred consecutive cases of cataract, shows the success he has achieved as an oculist.

He has done a great deal to enrich Guzrati literature with medical works. His large work in Guzrati, named *Sharir and Vaidak Shastra* has run through two editions. It corresponds to a Dictionary of Medicine. For his translation of "Advice to a Mother", he won the prize of the Guzrat Vernacular Society in 1884. This work too has passed through two editions. His third Guzrati work *Arogyata and Swachata* (Sanitation and Health) was first published in 1886, and has also gone through a second edition.

He has read several papers before the Grant Medical College Society of Bombay, and his name is well known to readers of the Indian Medical Journals by his valuable contributions.

He was nominated a Fellow of the University of Bombay in the year 1891.

(*Continued from page 258.*)

condition, diminishes the temperature and removes all other symptoms dependent on deficient aëration of the blood. It may be used with greater advantage in these cases before cyanosis or actual asphyxia comes on.

The cases in which oxygen has proved so useful include:—

(i). Dyspnœa from obstruction to the entrance of air into the air passages. Encouraging results have been recorded of its use in croup, diphtheria and œdema of the glottis. It is also said to relieve invariably, the fit of asthma.

(ii). Dyspnœa from destruction or a temporary damage to a portion, or portions of the lungs. Very flattering was the success obtained by several eminent physicians from its use in pneumonia and capillary bronchitis, and several apparently hopeless cases have recovered. It must however be borne in mind that, to be of any use in these cases, it must be used before the right heart becomes so engorged as to prevent it from doing its work. Oxygen will also be found highly useful in relieving the dyspnœa of pulmonary œdema, congestion, and hæmorrhage, collapse of the lungs, plastic bronchitis, emphysema, and pulmonary phthisis.

(iii). Dyspnœa due to diminished expansion of the lungs arising from the compression of fluid in the pleural cavity, from enfeeblement of the respiratory muscles, or from thoracic pain.

(iv). Dyspnœa from nervous causes. It is said to relieve the dyspnœa of hysteria and of uræmia. Forced into the lungs it is reported to be of use in poisoning by chloroform, narcotics (as opium, &c.), and some poisonous gases, which do not act by destroying the oxygen-carrying function of the red corpuscles.

It must not however be supposed that oxygen will prove curative in any of the preceding classes of cases. It is only a palliative, relieving the painful and distressing dyspnœa, averting the threatening asphyxia, and serving to prolong life. It allows time for treatment in suitable cases, and in hopeless cases renders the last few days or hours of life, comparatively painless.

There is another class of cases in which the inhalation of oxygen is likely to prove useful, and some successful cases of its use have been reported. If timely and properly administered it will save life in many cases of drowning.

My own experience of oxygen inhalation is limited to only two cases. None of those cases was such that a cure could be hoped for. Yet, the immense relief that oxygen afforded to the dyspnœa in both of them, has emboldened me to invite my brother practitioners to give it a fair trial in all suitable cases.

My first case was one of Pulmonary Phthisis in a young person of about 25. Both lungs were affected, the right more so than the left. The former had a large cavity at its apex, and consolidation extended to the lower portion of the middle lobe, the left lung was diseased at the apex, and there was probably a small cavity in it. The case was altogether a very advanced one with the usual symptoms, there was besides a very distressing dyspnœa, which commenced on 17th August 1892, along with a sudden rise of the temperature after an exposure to a cold blast, the dyspnœa went on steadily increasing till on the 26th it became so severe that, the patient was quite unable to lie down. I saw him on the 28th, when I found him in a sitting posture, with the shoulders raised, and the elbows resting on a high pillow. Breathing 45, inspiration very labored, the alæ nasi dilating widely. The patient could not speak on account of the dyspnœa. Pulse 128, temperature 102·2F. The patient had not been able to lie down during the last three days. Now and then from sheer exhaustion he attempted to go to sleep, sitting with the head resting on the high pillow in front; but before a few minutes elapsed he started up gasping for breath. All sorts of medicines had failed to give him the slightest relief. I suggested the inhalation of oxygen. As it could not be procured from any of the Dispensaries in Calcutta, arrangements were speedily made for preparing it at home, and an inhalation was given in the evening. It acted like a charm. Except that the breathing remained hurried, all the symptoms of dyspnœa were gone in about five minutes. The respirations fell to 36, and the pulse to 116, and the patient quietly lay down. The inhalation was continued for about an hour, when it was found that the patient had fallen asleep. The sleep lasted for about three hours, after which the patient woke up with the usual dyspnœa, which was again relieved by oxygen. From this day, till the 7th of September, when the patient expired, oxygen was used intermittently with great success.

On the 30th of August another painful symptom appeared, and that was intermittent attacks of palpitation. On this oxygen had no effect whatever, diffusible stimulants partially relieved it. Although the case was such as could not but terminate fatally, yet the immense, almost magical relief that the inhalation of oxygen afforded to the patient, justifies its use all such cases.

(To be continued.)

OPHIOLOGY,
OR
A DESCRIPTION OF THE SNAKES OF INDIA,

By R. P. Banerjee, B,A., G.B.M.S.L.,
Pachbadra, Rajputana.

THE EFFECTS OF VIPERINE POISON ON THE BODY, WHICH GIVE INDICATIONS FOR TREATMENT.

(Continued from page 228, Vol. II.)

The following symptoms, noticed in my experiments upon animals (dogs), and in cases of snake-bites in human beings were pathognomonic, and afford sufficient grounds for the administration of strychnine, even in larger doses, to make its effects more predominant to that of snake poison.

(1). *Wide dilatation of the pupil and perfect insensibility of irides to strong light.*—Shewing the affectation of the motor centres, and cellular elements of the cerebral nerves.

(2). *Reflex action dulled or suspended.*—Also shews the nerve cells were affected, so the transmission and the transference of all external cutaneous stimuli were suspended or stopped.

(3). Coma, which was often seen coming on so regularly in animals, was not often noticed in human beings; however, in every degree it pointed out that the cerebellar tissue was affected.

(4). Difficulty of breathing, sterterous breathing and convulsions, were also noticed, and these shewed the cranial nerves actually concerned in as the acts of respiration were also affected.

(5). In *Daboia* poison cases, cutaneous sensibility was lost, and even not sufficiently recovered after the subject or the patient was fully restored to health.

(6). Again, the effects of the poison was very insiduous, and all the symptoms relapsed after 72 hours, and were ushered in exactly at the same time of the day or night, at which the person was bitten by the snake. This condition was fully marked in cases of Daboia bite. And this should be carefully noted by all who have to treat snake-bite cases, because, after the first disappearance of symptoms, the effects of the poison may relapse and carry away the patient suddenly.

Treatment in cases of viper bites may conveniently be divided into:—

(1) Professional. (2) By the general public.

1 Professional treatment.—

(a). Local. (1). If a sufficiently tight ligature has not been applied by the patient, above the next joint to that where the snake has bitten, apply a tight ligature; the *Esmarch's rubber cord* used in surgery would be the best ligature to use in such cases.

(2). If the punctures are bleeding, apply cupping to extract some blood and a portion of the poison still in the tissues bitten through; if not bleeding, scarify, and use cupping.

The local extraction of blood is very useful, because some part of the poison may be taken out, also to relieve subsequent troubles, caused by excessive œdema and painful swelling of the parts affected, so often noticed in viper bites.

(3). Cauterization of the puncture, if at all resorted to, that by a live charcoal, or red hot iron, is more preferable to acids and other agents.

Moist cupping if properly done is by far more effective than the cautery.

(b). Constitutional—In all cases where snake bite is suspected or actually presents itself with the following symptoms, Liquor Strychnine (4 grains to an ounce of water) 10 drops at a time to be injected under the skin, either at the arms or near the punctures, and continued as long as the symptoms

persist, and should not be relinquished until slight strychnine symptoms shew themselves.

The symptoms are :—

Coma, dilatation of the pupil, sterterous breathing, loss of co-ordination and reflex action.

It has been noticed in cases where relapse had occurred, the patient apparently well, suddenly became giddy and incoherent, vomited or felt sick, and was soon thrown into a half comatose condition. These were, cases where strychnine was not given in sufficient quantity to mask its effects.

No other remedies such as brandy, alcohol, ammonia in any form to be given; as all these tend to increase blood pressure, affect the respiratory centres, and bring on coma and insensibility.

When once the poison symptoms are got over, it only remains to treat the patient for weakness produced by shock to the system—my way was to keep the patient on smaller doses (♏iii—v) of liquor strychniæ in ℥i of water, twice a day, a good tonic and digestive.

II. Treatment by non-professional men, and the general public.—

Whenever a snake-bite is suspected, whether the symptoms have appeared or not, and punctures from a mere bruise to deep seated wounds be noticed, whether bleeding or not, it is imperative that a tight ligature should be applied over the next joint to ensure stoppage of circulation through the bitten or suspected spot.

No brandy, wine or any drugs to be given internally. If the relatives of the person bitten at all like to do any thing they might enlarge the punctures with a pen kinfe to give free vent to the blood, and subsequently burn it with a live charcoal, still retaining the ligature on.

If the symptoms do not set in after 6 or 8 hours, and the person look well, the ligature may now be dispensed with, but if symptoms do appear and manifest signs of poisoning as by the dilatation of the pupils, difficulty of breathing, incoherency, and much inclination to sleep, the patient must at once be removed to the nearest hospital for regular and professional attendance of the case.

Remarks.—It has been attempted in all parts of the world to discover an antidote for snake-bite, and from time immemorial one or other drug was recommended, and so with strychnine very lately. But, though Dr. Augustus Mueller found it very useful as an antidote in Australia, it has yet to be established as an antidote for the bites of Indian snakes.

Accepting Dr. Mueller's authority on the subject, I gave strychnine a fair trial in snake-bite cases in man and animals, and I arrived at the conclusion that other practitioners in India will soon prove for themselves, that larger, even dangerous doses of strychnine would be required to effect cures in Indian snake-bites. My experiments and experiences were only limited to *Viperines* and a few *Bungari*, but I do not know if the so called antidote would be useful in cobra-bites or of other allied deadly snakes. And this I am to infer, because, different snakes have not the same effects, and do not produce the same symptoms to guide the treatment accordingly.

However, in the present state of medical science, let it be granted that an antidote has been discovered, and this be tried in all the different snake-bite cases as the best remedy on hand.

Dr. Mueller in his book on *Snake Poison*, alluding to my way of treatment contends *if such a large dose of strychnine could have been used and borne by the patient with immunity*—but my experience shews that, some cases took over 4 grains, and resulted in recovery, neither the so-called *cumulative* effects or other bad symptoms were noticed. Then it is natural to reason that, when a healthy man could not bear ½ a grain safely, there must have been something (snake poison or other) in the blood, that neutralized the action of strychnine.

I sincerely desire my professional brethren to give strychnine a fair trial in all kinds of snake-bites, and to see how far it is actually useful in Indian snake-bites. It has been found a useful antidote in Australasian snake-bites, and Dr. A Mueller is a *guarantee* for this, but how it will act with Indian snake poison is yet to be learnt.

CLASSIFICATION OF SNAKES, AS TO THEIR STRENGTH OF VENOM, &c.

Snakes may conveniently be classified as follows :—

A. *Harmless snakes*—Comprising the natural orders:—Typhlopidœ. Tortricidœ. Pythonidœ. Erycidœ. Acrochordedœ. Uropeltidœ. Xenopeltidœ.

B. *Of doubtful nature.* Comprising the natural orders:—Calamaridœ. Homalopsidœ. Amblycephalidœ. Oligodontidæ.

C. *Of doubtful nature and provided with fangs like venemons snakes*—Comprising the natural orders: Lycodontidœ? Colubridœ? Dendrophidœ? Dipsadidœ? Dryiophidœ? Psammophidœ.

D. *Poisonous.* Comprising the orders: Elapidœ. Crotalidœ. Viperidœ.—

E. *Deadly venemous suakes.*—Naja; (common). Ophiophagus (rare). Bungarus. (common). Daboia. (rare) Echis (common). In all their varieties.

Sometimes Trimerisuri inhabiting saline soils, and Haleys living in rocky places become deadly poisonous, not unlike Daboia or Bungarus. Echis, inhabitant of desert tracts are far stronger than the residents of marshy soils—size and color are often very misleading. Snakes soon adapt themselves to soil and climate.

In distinguishing snakes, some precise scientific scrutiny is necessary, and any attempt made on Native testimony would be futile, and would often result in fatal errors. Snakes are named in India accordingly to old legends, and traditions or mythology, only referring to their external appearances. Thus a quite harmless snake has been grouped with most deadly ones.

(To be continued.)

SECOND ANNUAL REPORT
OF THE
BURMA BRANCH OF THE BRITISH MEDICAL ASSOCIATION.*

By Dr. N. N. Parakh,
Honorary Secretary.

Mr. President and Gentlemen.—Under the provision of rule vii of the by-laws, I have the honour to submit the following Annual Report on the strength and work of our Branch, during the year 1892.

The *financial condition* of the Association will appear from the statement of receipts, disbursements and balance to credit, appended to this Report.

Strength.—It is with much pleasure I have to announce that the actual number of members on the list of the Branch Association has reached forty-two, thus showing an increase of 10 more than last year. There were in all 11 elections and one resignation. The names of the newly elected members being, Surgeon A. R. P. Russell, Mr. Vincent L. Watts, Mr. Charles Martin, Mr. Roger, T. Darwin, Surg.-Major W. T. Johnston, Surg.-Capt. J. C. Connor, Mr. Robert A. Hollingsworth, Surg.-Major E. P. Frenchman, Surg.-Capt. W. Molesworth, Brig.-Surg. Lieut.-Col. S. B. Hunt, and Surg.-Capt. G. J. H. Bell; while the resigning member was Surg.-Capt. C. A. Johnston.

An actual increase of 10 to our number, will, I believe, be considered satisfactory, showing, as it does, that the establishment of our Branch supplied an existing want and justified the action which was taken by our energetic and public-spirited President, Surg.-Col. C. Sibthorpe, with the help of the founders of this organisation. It also indicates the existence of a lively interest maintained in spite of the difficulties caused by constant shiftings and changes especially amongst the military officers of our profession.

Work.—The Transactions of the past half year have been fully recorded in the minutes of the proceedings at the different meetings held, and copies of these have been distributed both among members and the sister branches of the Association in India, as well as other more important bodies; so that full information of our work is already in the possession of the members, and it is not necessary for me to do more than submit a resumè of that work in this place. I feel, however, that very much more could be done in the matter of circulating and distributing papers in general among our members, if only they will lend their co-operation. Allusion has been made to the difficulties caused to members by constant changes in their charges and appointments, these operate also in throwing obstructions in the regular and timely distribution of all papers; members move about from place to place, and no doubt, in the hurry and worry of change, omit to intimate to the Honorary Secretary alteration in their addresses. The result frequently is that, members cannot be supplied with their papers as early and regularly as they wish, and as certainly is the wish of the Secretary to supply them. It would, therefore, conduce to more regular work, if members would be kind enough to make it a point to send imtimation of change of address, as early as practicable to the General Secretary. This will also enable the Secretary to communicate with the Home Secretary who has to issue the *British Medical Journal*. As there is reason to believe that irregularity in the supply of journals has caused us the loss of one member at least, I have ventured to allude to the matter here at some length since it is injurious to the popularity of this Association, which is as yet too young, and numerically far from strong, to sustain the loss of a single member.

Resumé of Transactions.—(1). Our 8th meeting was held on the 5th of February 1892. Surg.-Capt. M. J. T. J. Blancard's paper on "Encephaloma of foot, as a result of injury," was read.

(2). Surg.-Col. Sibthorpe read a paper on the "Mortality and sickness amongst troops, British and Native, on Field Service in Burma, from 1885 to 1888," which was separately printed and circulated.

At the 9th meeting in March 1893, Dr. T. F. Pedley related a case of "Ruptured Uterus."

At the 10th meeting in April, Surg.-Capt. C. R. Woods read notes on a case of "Fracture of the Base of the Skull."

At the 11th meeting in May, (1) Surg.-Col. Sibthorpe read a paper on "Enteric Fever in Burma." Surg.-Capt. R. E. S. Davis read records of "Enteric Fever cases in the Rangoon Jail." (2) Surg.-Lieut-Col. T. Mayne read "Notes on a case of Frost-bite from the Shan Hills." This paper has not been published as it was too late for publication. (3) Surg.-Major O. Baker read "Notes on a case of Hæmothorax" and also a case of "Fatal peritonitis from the escape of a worm from the intestines into the sac of the Peritoneum." (4) "Mr. N. N. Parakh read "Notes of a case of Traumatic parotitis."

At the 12th meeting in June, Surg.-Major Baker showed a specimen of "A horse-shoe kidney."

At the 13th meeting in July (1) The Hon. Secretary read a letter from Surg.-Capt. C. L. Williams to show to the members "A calculus he had removed from the prepuce" (2) The Hon. Secretary showed an adult Chinaman with congenital closure of the anterior nares. (3) Surg.-Major Baker read "Notes on a case of Acute exfoliative dermatitis." (4) Dr. T. F. Pedley related "A fatal case of Hydrophobia."

At the 15th meeting in September, the Hon. Secretary read two cases sent by Surg.-Capt. C. L. Williams. (1) "Multiple intra-uterine amputations." (2) "Unusual case of strangulated hernia."

At the 16th meeting in October, the Honorary Secretary read a paper on "Splenitis leading to Abscess" contributed by Surg.-Capt. R. H. Castor.

At the 17th meeting in November, Surg.-Lieut.-Col. Mayne read notes on "Enlarged spleens" supported by over 300 diagrams, and also on "A case of Ruptured spleen." (2) Surg.-Capt, R. H. Castor contributed a paper on "A case of bayonet

* From the *Transactions* of the Society.

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: *Larynx*:—Mucous membranes of th
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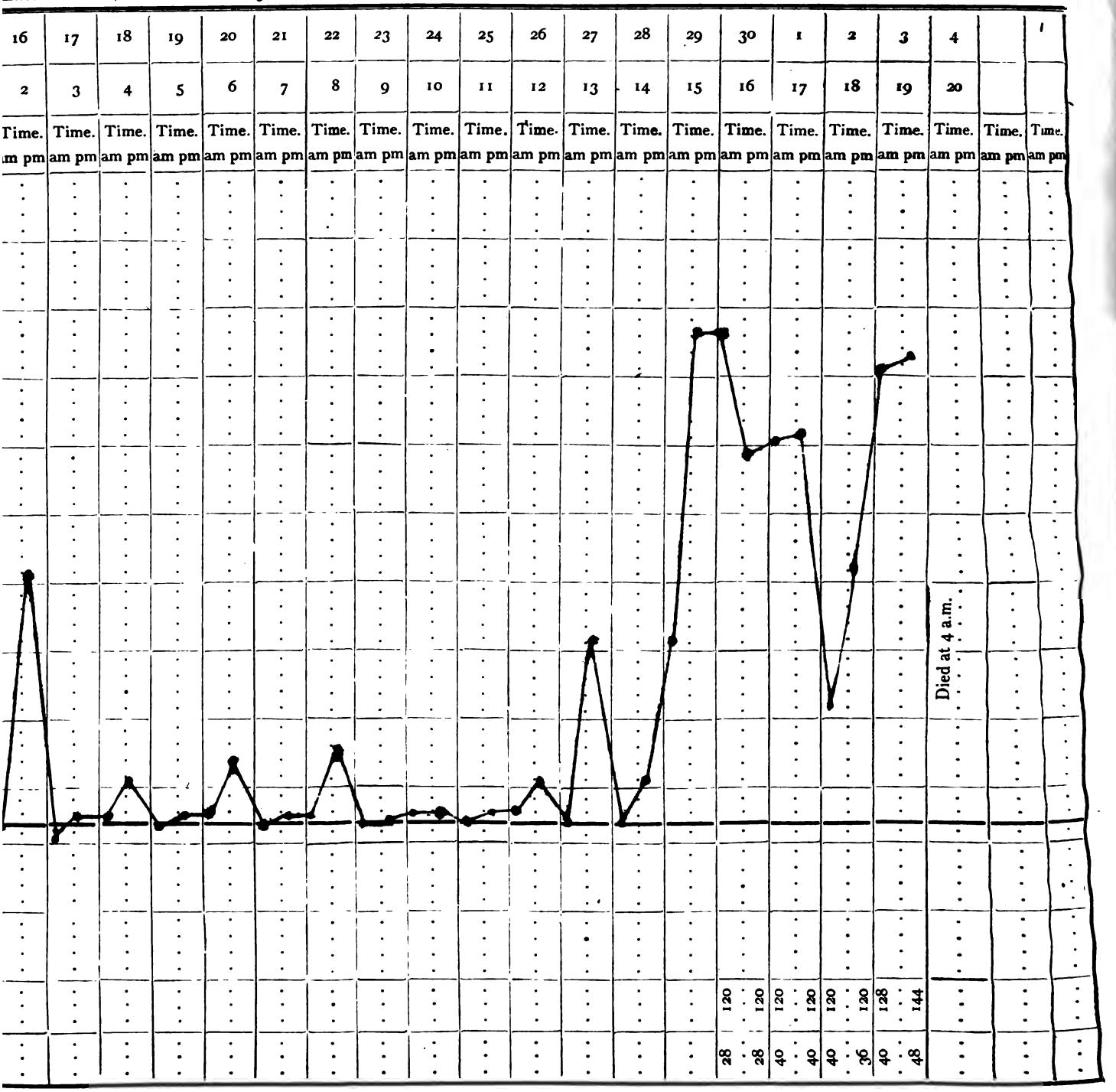
D ROPHOBIA MISTAKEN AT
FOR HYSTERIA.

R OBERTSON. W.M.O.,
:NT-HOUSE DISPENSARY,
O OTACAMUND.

>out 30 years of age, mother of fou
nervous temperament, the wife of

RECORD OF TEMPERATURE, PULSE, AND RESPIRATION.

17th Bo. I., Regtl No. *518*; Rank and Name, *Recruit. Ladhu Gujur*; Service *7/12*; Station *Bhuj*; *Enteric Fever*; Date of attack *15th November 1892*; Result *Died*; Date of result *4th December 1892.*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wounds of both lungs." (3) Mr. N. N. Parakh read "Notes on a case of laceration of vagina from indirect violence."

At the 18th meeting in December, Surg.-Lieut.-Col. T. Mayne read a paper on "Cannabis sativa—Indian hemp."

Thus it will be seen that though the work of the year has not extended, still it has been of some importance, and for this the best thanks of the Branch are due to the unremittingly warm interest taken in the work by the President, the Vice-President and the working members generally. A very great deal, however, needs to be recorded of the medical work done in such a new and extensive field as Burma offers, and as the Annals of our Association, especially those of this Branch, offer an excellent means of recording that work, it is to be earnestly hoped in the interests, not only of the Association, but of medical science at large, that our out-station members, and the members generally, of the profession, will interest themselves to contribute papers of important cases coming within their experience.

In bringing this slight sketch of our annual work to a close, I venture to take the opportunity to invite the kind attention of members to a few wants which have been experienced during the past. The supply of these I believe would add greatly both to the usefulness and popularity of the local branch. Among them I would give a first place to the want of a good medical library. Of the importance of such, our members doubtless, are fully aware, so I need not take up time and space in discussing that. But the utility of such to our members will at once be apparent that a good library will enable both resident and non-resident members to avail themselves of books and papers which are either too cumbersome or too troublesome to keep always at hand, especially in the case of members who, subject to the exigencies of the public service, have to be constantly on the move. Books, papers, and the accumulation of volumes will be such as few individual members will be either able or willing to afford, and then they will be always available to every one of the members. Co-operation in this as in most other matters will eventually be for the good of all. But, as most of the advantages of a library will be apparent at first thought, I need dwell no longer on the subject, important though it be. Another want is a fixed place for holding meetings, and some minor ones which, I believe, we are going to discuss this evening.

A Mirror of Practice.

A CASE OF ENTERIC FEVER.

By Surgeon-Captain B. D. Basu, I.M.S.,
Ahmedabad.

Recruit, Ladhu Gujar, of 17th Bombay Infantry, aged 20, admitted into hospital on the 16th November 1892, for Ague. As shown in the accompanying temperature chart, the fever was of an intermittent type till the 28th November 1892. The ordinary treatment for fever, *viz.*, diaphoretics, antiperiodics and antipyretics was had recourse to.

30th November 1892.—Very weak. Last evening temperature went up to 105·6°F. Antipyrine ordered, as well as stimulants.

1st December 1892.—A little better to-day, but temperature still continues high. The disease changed from Ague to Remittent Fever.

2nd December 1892.—Temperature has come down to 100°F. Seems better.

3rd December 1892.—Complains of difficulty in swallowing, otherwise, condition remains the same.

4th December 1892.—Died this morning at 4 A.M.

Post-mortem Examination 5 hours after death.—Body well nourished. *Post-mortem* rigidity marked.

Respiratory Organs: *Larynx*:—Mucous membranes of the laryngeal and lingual surfaces of the epiglottis presented several patches of small ulcerations.

Trachea:—Normal.

Right Bronchus:—Congested, and full of mucous froth.

Left Bronchus:—Also congested, and full of froth.

Lungs:—Both congested hypostatically.

Heart:—Right ventricle contained blood clots, otherwise normal.

Stomach:—Mucous membrane congested, and in one place there was tendency to ulceration.

Liver:—Much enlarged, friable and fatty.

Spleen:—Enlarged and congested.

Small Intestines:—Mucous membrane congested in patches, and typhoid ulcerations of Peyer's patches numbering about 35. These ulcerations were in different stages of progress. One round worm about the ileo-cœcal valve.

Large Intestines:—Congested about the rectum, otherwise normal.

Mesenteric Glands:—Enlarged and congested. Other organs normal.

Remarks:—The symptoms in this case were so obscure that it was not diagnosed as one of Typhoid Fever during life. Had there been no *post-mortem* examination, the real nature of the disease would not have been known. Diarrhœa, typhoid rash, and that peculiarity in the rise and fall of temperature, said to be characteristic of enteric fever, were all absent. In India, diagnosis of enteric from malarial fevers is often difficult—if not impossible. The occurrence of typhoid fever was altogether denied in this country before the time of Dr. Scriven, who from *post-mortem* examinations was unable to distinguish typhoid from remittent fevers.

A CASE OF HYDROPHOBIA MISTAKEN AT FIRST FOR HYSTERIA.

By D. Robertson, W.M.O.,
Government-House Dispensary,
Ootacamund.

A European lady, about 30 years of age, mother of four children of the typical nervous temperament, the wife of a

distinguished, barrister came from an up-country station to Madras before embarking, and put up with a friend.

For some days before leaving her station, she had been very busily engaged in packing up her things.

A few hours after her arrival in Madras I was sent for to see her. She complained of feeling very unwell, tired, disinclined for any exertion, loss of appetite, nervousness, &c.

I thought at the time after hearing the history of her case, that she was suffering from nervous exhaustion, the result of her long railway journey and the previous worry in packing. I told her and her friends that a little rest would soon restore her to her usual health. I prescribed a soothing mixture containing among other ingredients, bromide of potassium. I left promising to call again in the evening.

On calling again at 4-30 P.M., I found the patient worse. She complained of feeling chilly, feverish, and pain in the throat. She had taken very little food, confined herself to her bed in a darkened room, and kept herself covered. Her tempture was 100·2°F. There was nothing unusual to be seen on examining the throat, except that the fauces was slightly congested. I again assured her and her friends that I considered her case very trifling, and that rest would effect a speedy cure. I cheered her with the hope of a good nights' rest, and the benefits to be derived from it.

I left after increasing the strength of the soothing mixture, to which a little chloral was now added. I also left two sleeping draughts containing 30 & 20 grs of chloral, to be given during the night according to circumstances.

I was sent for at 9 P.M., as the patient said she was feeling very unwell. I again assured her of the good effects I anticipated from a good night's repose. She had already taken one of the sleeping draughts. Finding her somewhat unusually excited I gave her the other. Shortly after taking the second draught she fell into a sleep, and I left.

I was again sent for that night at about 12 o'clock. I found the patient very excited, constantly shifting from place to place, and the repeated sedative draughts seemed to have had very little effect beyond making the patient doze occasionally.

At about 2.30 A.M., on attempting to swallow some water which she had called for, she became violently excited and swallowed a portion of it with great difficulty. My fears even then were not aroused. I thought the case was an aggravated form of hysteria. At one time I began to suspect meningitis. On leaving the room I casually remarked to her husband that the symptoms resembled greatly those of a case of hydrophobia. No sooner did these words eecape my lips, when he exclaimed with a shudder "good gracious! she was bitten on her hand about three months ago by her pet dog, which I tied up, and which I found dead afterwards." The fearful reality now dawned upon me, that this was a real case of hydrophobia.

To draw a sad case to a speedy termination, very acute symptoms rapidly supervened, and after undergoing dreadful agony, she died in a violent muscular spasm asphyxiated, at about 1 P.M., next day.

She was conscious almost to the very last, and knew that she was dying, although she was not aware of the nature of her malady.

Remarks.—This is an interesting case, showing how the premonitory symptoms of hydrophobia in an unsuspected case may be mistaken for those of hysteria.

Note.—The dog was never suspected of having died rabid.

SELECT CASES FROM THE RANCHI MUNICIPAL DISPENSARY AND HOSPITAL.

(Continued from pp. 246 Vol I, and 9 Vol II.)

By Naresh Chandra Mitra, M.B., M.A.

Case IX.—A case of compound dislocation of the elbow. Tetanus. Death. Sahajee, Hindu male, aged 13, was admitted on the 19th December 1892, for treatment of the above. The patient had climbed up a tree 48 hours previous to his admission, from whence, accidentally losing his hold, he fell down. On admission, he was found suffering from compound dislocation of the left elbow and radius. The condyles were seen protruding in front of the joint to the extent of an inch and a half, through a lacerated wound. The lower extremity of the left radius too was protruding externally through a lacrated wound over the wrist. Both the wounds were in a fœtid condition, and the whole length of the arm, from the axilla to the wrist, was much swollen. Failing in my attempts at reduction, I was left no other recourse than to saw through the protruding bones. The humerus was sawn through 1½ inch above the condyles, the portion being bare of periostium. The protruding part of the radius was likewise sawn through. There was some oozing from the cut end of the humerus which did not stop under pressure. Failing in my repeated attempts to secure this end by pressure, I applied to the points of oozing from the bone, pieces of lint soaked in *styptic colloid*, and bandaged up the arm with a little firm pressure, with cotton wool. In the evening, the temperature was not high, all the oozing had stopped, the humerus was reduced, and the wounds were sprinkled with iodoform, and dressed antiseptically.

20th.—Temperature slightly over the normal, dressings changed, slight discharge.

21st.—Wound dressed, discharge sweet, appetite good, passed no stool

22nd.—This morning, the patient shewed symptoms of tetanus. The jaws could not be opened to the full extent. The patient experienced some difficulty in swallowing. He had bromide of potassium grs 20, hydrate of chloral grs 20, evey 3 hours. In the evening, the difficulty of opening the jaws was more pronounced. An enema of turpentine and castor oil was given at once. He had a free loose motion immediately after its use. As the spasms were tormenting the patient and *chloral* had not succeeded in the least in alleviating his sufferings, I intended trying the effect of *eserine* to allay he irritability of the spinal cord. With this object in view, I injected hypodermically at first 1/16th grain, gradually increasing it to ⅛ grain, but not the slightest impression was made upon the spinal cord as manifested by the cessation or

longer intermission of the spasms. *Chloral* and *bromide* were continued. On the morning of the 23rd instant, the patient reached the depth of exhaustion. Enematæ of milk and stimulants were given, but the child succumbed late at night.

Case X.—A case of urethral stricture in a child 4 years old. Phagna, a *Kol* child, was admitted for treatment of the above complaint, from which he had been suffering for 2 years previously.

The urine always dribbles from the *meatus urinarius*, it is never passed in a stream. When the child has to pass water, he screams aloud and places one hand over the *anus*, and the other over the pubic region, or pulls the *penis* forward. Often he has to use great force in trying to evacuate his bladder, and in so doing, the *sphincter ani* is relaxed and involuntary motions follow. In introducing the catheter, it passed easily up to the triangular ligament, beyond which it was passed with some difficulty, and as the catheter was being pushed forward slowly, the urine flowed in a forcible stream by the side of the instrument. The instrument was then passed into the bladder, but it was so very tightly caught by the urethra at the seat of the stricture, that the instrument could not be freely moved about.

On enquiry from the father of the child, it transpired that 2 years previously, the child had a whitish discharge from the urethra, and that since then, the patient had been complaining of pain in micturition.

Of course there can be no doubt that the stricture was due to gonorrhœal infection. But, the point for consideration is, how could a child of 4 years have contracted the disease. The only way to the solution of the question, lies in the notion current among the females of the lower classes, that an attack of gonorrhœa can be cured by cohabitation with children, which they accomplish by enticing away a poor boy and introducing his organ into their vagina. The child was removed by his father before any further treatment was undertaken.

A CASE OF GANGRENE OF THE GREAT TOE.

By Naresh Chandra Mitra, M.B., M.A.
Ranchi.

K. M., aged 55 years, had been suffering for over 6 months from a pain over the metacarpo-phalangeal joint of the left great toe. The pain was at times very severe. I advised painting the part with *tinct iodine*. Continued application of this proved of great benefit to him as he ceased to complain of any pain for a month or so. One morning I was called to see him. He was suffering from an abscess, over the region. I ordered poulticing the part with *linseed meal*. The next day I opened the abscess, and a quantity of pus of fœtid odour was evacuated. The day after, another point formed underneath the part, which was also opened a day or two subsequently. The tip of the toe was becoming a blackish color. There was no doubt of gangrene setting in. I waited for a *line of demarcation*, and in the meantime, the part was being dressed. A line of demarcation formed and gradually the great toe was removed by forceps. The wound has now quite healed up, and the patient has regained his health. I suspected the case to be one of diabetes from its history, but examination of the urine helped me in no way.

NEURALGIA OF THE FIFTH NERVE,

By R. N. Ghosal L.M.S.,
Lecturer in Surgery,
Barisal Medical School.

The patient, a healthy Hindu adult, who had suffered for 7 years from recurrent and intermittent attacks of dull aching frontal headaches, with violently pulsating temporal artery on the right side, pain over the right shoulder and nape of the neck, came under my treatment. The pain often extended as far as the right forearm and back. As there was a remote history of gonorrhœa, I treated the case for more than a month and half with potass iodid, and syrup iodide of iron, with occassional cathartic pills to keep the bowels open. He had perfect immunity from any attack, so long as the medicines were continued. The pain returned with renewed vigor, when the medicines were stopped. The patient used to get some relief from pressure by cords.

On careful examination I noticed a loose molar, and a redundant canine also loose, in the upper jaw on the right side. Both these were extracted. All the distressing symptoms subsided instantaneously. He is now quite well. This is a good case for the *Reporter*, and shows, that medicines sometimes fail, while a simple procedure cures a serious malady.

CASES FROM THE DELHI CIVIL HOSPITAL.

By Assistant-Surgeon Mul Chand,
In Charge, Civil Hospital.

(*Continued from page 199, Vol. II.*)

Case VII.—Musamat Taro, Hindoo female, said to be 13 years of age, seen by me at mid-night on 22nd April 1892. She had been in great agony and trouble for the last 2 days, and the two *dhais* attending on her were quite helpless to relieve her sufferings in any way. After much persuasion and trouble, I succeeded in getting her consent to let me see what was the matter with her.

Symptoms.—On looking at the parts, I at once told the friends and relatives of the girl that, there was an arm presentation, and the child to all appearances dead. The whole arm of the child was protruding from the vulva. It was swollen and livid, and no pulse could be felt at the wrist.

Treatment.—I told one of the *dhais* to push up the child by putting her hand in the axilla, while I pressed the feet down from the other side, and by external manipulation with some difficulty and delay, I got it turned into a *foot presentation*, and delivered a dead and putrid child of full growth. Vagina and uterus were washed and syringed out with carbolic lotion, and the patient arranged comfortably in every other respect. She made a rapid recovery, and was able to go about in a week's time.

(*To be continued.*)

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The Medical Reporter.
CALCUTTA: SEPTEMBER 1st, 1893.

Animadverting on the extreme facilities for poisoning at the ready disposal of those labouring under the urgings of *felo de se* and others feloniously inclined, we deplore the reprehensible laxity and apparent apathy displayed in the utter absence of legislative measures controlling (or rather preventing) the extensive sale of deadly drugs by persons of all descriptions, and more particularly by those among the ignorant and illiterate, who unhesitatingly retail arsenic and other life-destroying preparations as readily as if they were selling *rice* or *dal*, and do not attempt to question the intentions or the probabilities of the purchaser committing some rash act against himself or some other person.

Our fears are not without potent foundation; for from the latest State publication, we learn that, out of 7703 chemico-legal investigations conducted in the Government laboratories of Bengal, Bombay, and the Punjab, no less than 2836 (or over one-third) were for suspected cases of cattle, homicidal and suicidal poisoning, and that as many as 1420, or nearly half of these criminal analyses, fall to the share of Bengal alone.

Appalling as these figures may seem at first sight, they cannot firmly be regarded as any index to the numberless cases, that it is more than probable escape or defy detection, and it is indeed marvellous that (discovered) crime has had so little impetus, and does not greatly exceed the numbers above quoted; considering that drugs such as *antimony, arsenic, bandar lati (physostigmatis faba), cannabis indica and sativa, dhatura (strammonium), kuchla (nux vomica), opium, vermillion, etc, etc.*, are so easily procurable in pice-worths (*i. e*, for less than a half-penny) from hundreds of vendors who have not the slightest conception of pharmacy or toxicology. It is by no means uncommon to see a child of tender years waddle up to a counter, throw down a pice, and depart (unquestioned) with its equivalent of arsenic or opium, or some equally (if not more so) lethal preparation carelessly wrapped up in a scrap of dirty paper. Besides this, it is unhappily rather the rule than the exception for many of the so-termed respectable Native drug shops to be equally careless and callous with respect to the sale of atropine, hydrocyanic acid, laudanum morphia, strychnine and the more expensive poisons that the *pansaries* neither deal in nor keep in stock.

Bombay with its proud motto of *Primus in Indis* is the only one of the Presidencies that boasts an Act (viii Bo of 1866) which is modelled on the English law, restricting the sale of certain scheduled poisons to duly licensed vendors, and forbidding their being retailed to any person unknown to the vendor, unless in the presence of a witness known personally to both vendor and purchaser; except, of course, in dispensing the prescriptions of a medical practitioner. But, as the law does not require such practitioner to sign his name and titles in full (initials being admitted valid) and there exist no published lists of persons properly qualified to sign or initial prescriptions, and as there are scores of persons practising (we should safely say dabbling in) medicine without authority from any of the recognised training schools, the latter portion of this Act is a dead letter. We seriously doubt whether Act viii, Bombay, of 1886, can be brought to bear against the sale of opium, nor are we prepared to believe or accept the theory that these chemico-legal investigations afford any positive or relative idea of the number of poisonings, accidental or wilful that really take place from year to year. For, with the present more than loose system of disposal of the dead, there is ample opportunity to those so inclined, without the most meagre probabilities of detection, fearlessly to continue their murderous work.

On the Continent, in Great Britain, America, and in most civilized countries, cremation or interment is refused to every corpse unsupported by a cetificate duly signed by a properly recognised medical man, clearly setting forth the actual cause of death; except, of course, in the battle field or burials at sea. But here in India, such document frequently bears the signature of some person, who is utterly unable to distinguish between the *vomer* and the *astragalus*, much less to correctly diagnose any of the ills that flesh is heir to. As he is not acquainted with the symptoms presented by, or the antidotal treatment required for poisons, it stands to reason that he cannot truthfully certify as to cause of death. Yet, by the ready acceptance of such certificates, many a body that the Coroner should have had an inquest on is transferred to the burning ghats or cemeteries, without a shadow of suspicion as to the cruel manner in which the victim was done to death.

For instance—the qualified medical aid (*i. e.*, those only whose certificates are valid for all countries) available in Calcutta, numbers 1570 souls, of whom 1081 are diploma'd medical men and women, 177 *Hakims* and *Kobirajs*, and 312 are certificated midwives. But, almost every 'failed' medical student considers himself entitled to (and does) practise—Jack Bill, Tom or Harry hurriedly glances over the pages of some medical work, and straightway begins dosing right and left in the vain imagination that his cursory reading has acquired him more medical knowledge than that possessed by the man, who has carefully studied the entire curriculum of medicine. Some dispense dream-medicines, others claim miraculous powers of healing, and thus form the nucleoli of "laymen sud-

denly transformed into full blown medical men," and no matter what their several or individual sources are, all these persons become self-constituted practitioners of medicine, the bolder of whom even dare to take up the most dangerous cases of illness in the safe conviction that, in the event of the decease of their too confiding victim, they would have no difficulty in disposing of his corpse, as a certificate of death is all that is necessary, and *their* signature to it would not be rejected.

Take we a typical illustration—cholera (which to the general mind is constituted by depression of bodily warmth accompanid by purging and vomiting) is raging badly, and some one with the fell intention of getting rid of some one else, whom he owes a grudge, mixes arsenic in his food. Cramps and gripes ensue, followed by vomiting and severe purging. The color of the discharges being entirely ignored, cholera is the verdict of the relatives, "cholera" says the death certificate, and to save the neighbourhood from infection, the body is hurried away to the burning ghats or cemetries; fire does its work effectually, removing every trace of the secret for ever. But in the case of interment the terrible secret remains buried for eternity, unless (which however very rarely happens) some one raises the question of 'suspected poisoning,' when exhumation and chemical examination lets the foul murder out. This same is also true for every one of the mineral, and many of the well known vegetable poisons. But there are some subtle and delicate, though deadly poisons, belonging to the organic world, which exhibit well marked symptoms just before and within 76 hours subsequent to decease, and yet undergo such rapid decomposition that, resolving into their elements, and passing into a simple condition of chemical combination, they would render autopsy, after so little as one week's interment, worse than useless, by giving negative or misleading results.

And sad though such a *laisses faire* as the present may be, still the evil must go on unchecked and unquestioned, until some strigent measures be taken, regulating the selling of poisons, and the awarding of death certificates by those persons only, who by virtue of proper and efficient training, are legally qualified to dispense medicines and treat disease.

A sufficiently large number of cases of poisoning by carbolic acid have now been collected to prove beyond doubt the toxic effects which this agent, when used antiseptically, and with insufficient care, at times exerts. Dr. E. T. Reichart in a contribution to the study of cardiac depressants, summarises fifty-six cases of poisoning by carbolic acid. Superficially reviewing the general symptoms of poisoning, he says that, the poison is absorbed with very great rapidity, and the evidence of its toxic influence are soon manifested. Regarding the poisonous effects of this agent, so long ago as 1875, Tardieu called attention to this very important fact, and tabulated the particulars of fifteen of his cases; but since then, the number of recorded cases has so largly swelled up, that their thorough consideration from a surgical point of view, even by the general practitioner, has become of very material importance.

In cases which have been under observation, symptoms have been observed to appear almost immediately, very often, however, it is some time before any symptoms supervene. The most reliable symptom, and one which is invariably present in the vast majority of cases, is found in the condition of the urine. Dr. Kenneth McLeod always laid great stress on this symptom, and according to M. Baumann also, we have in the reactions of urine, positive means of diagnosing not merely the fact, but the actual extent in which the intoxication is present. It often assumes a dusky color, becoming almost black, and then gives out a peculiar odour, which is very unlike carbolic acid. The certain tests are by the chemical methods at our disposal; they are more important than the mere physical appearances, which, indeed, are very often absent. The most reliable chemical test is founded on an estimation of the quantity of normal phosphates present in any given specimen of urine. It is known as that of Sonnenburgh's, and is conducted in the following manner. The specimen of urine is first acidulated with strong acetic acid, and baric chloride is added to excess; a very copious precipitate consisting chiefly of baric sulphate is at once formed if the urine be healthy. From the copiousness or otherwise of the resulting precipitate, any albumen that may be present having been in the first instance separated, the degree of intoxication may be arrived at. If in an acute or advanced stage, scarcely any precipitate will be deposited, the normal sulphates having undergone decomposition, are transformed into soluble sulpho-carbolates

Poisoning, by carbolic acid when applied externally, as we have already said, may occur under two different forms. It may be very sudden and without any apparent cause or warning, the patient sinking rapidly after the application of the carbolic dressing. M. Küster of Berlin has related five of such cases, in one of which, recovery eventualy took place. He is of opinion that many cases of death from shock or collapse after operations are really cases of carbolic acid poisoning. The second form is the more common variety, and therefore is of more interest to the surgeon. In this variety, the symptoms shew themselves after a certain time has elapsed. A patient after being operated on apparently goes on well for days or weeks. He then becomes somewhat restless, temperature rises 3 or 4 degrees, symptoms of slow septicæmia set in, which are often met with at the hands of the surgeon, by a more vigorous application of the antiseptic method. The patient, however, becomes worse, loss of appetite, giddiness, clonic spasms, great prostration, with coma follow, and even death ends the scene. In the many cases which end in this way, it is not difficult to trace the cause. In cases which recover after the immediate discontinuance of the dressings, it is easy to show how improvement has set in; and on the other hand, when the dressings are continued from a mistaken idea of insufficient attention to the antiseptic method, the symptoms become aggravated, the temperature rises, the patient becomes uncomfortable just at that period when an opposite result is looked for.

When the symptoms of carbolic acid poisoning are manifesting themselves, the first and most obvious step is at once

to stop the use of the acid, and very often this will be sufficient, if the mischief has not advanced too far. But, it is not necessary to discontinue antiseptic treatment, which should be continued in some other form, as salicylic acid or thymol. Strong oxidising agents are inadmissible as antidotes, but the latest researches of M. Baumann in this direction, give some reliable hints. He has shewn that sodic sulphate forms with carbolic acid within the body soluble and inocuous sulpho-carbolates. Hence, Glauber's salt would appear to be the direct chemical antidote to carbolic acid which is present in the blood, having gained access there by absorption.

In the present state of our knowledge little more can be recommended than increased care in the use of what is undoubtedly a valuable agent. Carbolic acid of known and undoubted purity, as Calvert's, should always be used. Absorption is always more prone when the acid is exposed to large cavities in the form of lotions, washes, etc., and it is probably true that strong solutions of carbolic acid are less dangerous than weak ones, because by coagulating the albumen of the tissues at once, further absorption is rendered impossible. Children and persons with feeble constitutions are more susceptible to the toxic effects than those of more resisting and robust constitutions. The chief point is to watch each case carefully, and on the least suspicion caused by a rise in the temperature, restlessness, or smoky urine, to discontinue the dressings for some other more suitable one, which perhaps, would be more agreeable to the idiosyncracy of the patient.

Mens sana in Corpore sano.—A sound mind, that is, a well balanced mind, is most necessary for the true understanding of spiritual matters, or in other words to know what religion really means. Hysterical effervescence which is so general a feature of the religion of to day, is not, and cannot be, the product of a sound mind. That a sound mind requires a healthy body may be put as an axiom without violation, therefore, medicine, the art or science for keeping a sound body, and religion, have close affinity, and the science of medicine should always have the fostering care of ecclesiastics. Has this been so? We purpose to give both sides of the question.

In the early days of ecclesiasticism, which begun, say, about 200 *Anno Domini*, and up to the eleventh and twelvth centuries, medicine received but little aid from ecclesiastics, and no fostering care. Subsequently, medicine recieved more attention; but even up to the end of the sixteenth century, superstition prevailed, and acts springing from superstitious belief were prescribed by ecclesiastics as remedies for the sick.

Medicine as a science traces its birth to Hippocrates, who laid down its first principles about 500 B. C. Sickness, even at the present time, is attributed by the masses of the Hindus to supernatural beings, and so it was in the days before Hippocrates, who was the first who tried to trace illness to natural causes. He was the first to diagnose. Hippocrates even saw in insanity nothing but a disease of the brain.

Rome in her palmy days nurtured literature, the arts and sciences; but when Rome became ecclesiastical, matters were altered. Constantine the first Christian Emperor speedily suppressed the Medical Colleges, because he found physicians better educated, and therefore, not so credulous as his other subjects. Here we discern the hand of ecclesiasticism, which thus endeavoured to destroy, and succeeded in a great measure, the germs which sprung from the labor and thought of Hippocrates.

At this time ecclesiastics believed and taught that all diseases were the result of the influence of evil spirits, the lesser diseases were due to minor devils, the more severe to major devils, and diseases of extremely severe type to Satan himself. Ecclesiastics always said when alluding to medical aid, "Vain is the help of man," and doctors of the period found that they could not practice without an ecclesiastical certificate; a priest had to vouch for the orthodoxy of the doctor, as the whole profession lay under the ban of atheism. The medical profession was far from being popular or lucrative, and naturally really able men chose any other profession rather than medicine for their career in life.

If it was thus with medicine, how stood the case of surgery? In those early days of ecclesiasticism and during the mediæval age, surgery was in a worse condition than medicine, for the clergy denounced it, especially dissection, which was considered a sacrilege; for a thousand years and more the practice of surgery was discountenanced. We smile now at the opinions of the period which by their peculiarity fostered charlatans and hampered and bound scientific men and scientific research, but we should remember what the condition of general knowledge was at the time, the mediæval period was truly the dark age, and it was, as in nature, so in learning and the arts, the darkest before dawn; yet, during the darkest period in Europe the Jews kept alive the knowledge and practice of medicine and surgery, and progressed. They did so sometimes under the greatest hindrances, for they were ostracised by the ecclesiastics, who taught their people that it would be better to die than to be kept alive by a Jew. It was thought sinful, something dreadful for a Christian to seek medical aid of a Jew, even though *in extremis*. Europe has much to be thankful for to the Jews, and medicine and surgery should hold them in grateful remembrance. This people truly, have returned good for evil in a very large measure. How horribly were they maltreated and massacred by the Christians of those early days.

In the early days of ecclesiasticism, when superstition was rampant, superstition fostered and enforced by ecclesiastics, and sanctioned authoritatively by the chief ecclesiastic, the Pope, who, by his *imprimatdur* stamped even the most absurd superstitions with unquestionable authority, relics, prayers to the saints, pilgrimages to saintly shrines, were the remedies prescribed by ecclesiastics for sickness and disease. Much of this superstition still lingers in Europe, and many people of good education adopt these remedies, with perhaps draughts from consecrated well or stream, in preference to the scientific treatment of the doctor, based upon the etiology of the disease,

and the diagnosis of its particular appearance. In India superstitious remedies allied to the religion of the people, amulets and charms, are popular remedies, sometimes adopted surreptitiously even though a medical man is treating the case; showing thereby, that the people have not yet acquired confidence in Western Medicine, and it must be so while the ignorance of the people is so dense. It can truly be said of a large percentage of the masses of India, that they do not know their right hand from their left.

As in Europe in the early days of ecclesiasticism and the dark age, so now in India, madness is attributed to a possesion of devils, and exorcism is an elaborate affair. We may see the same practices at present in India followed by the exorcist, as were pursued in those olden days in Europe; the abuse of the evil spirit in possession or the degradation of the same spirit, if reluctant to leave after the abuse, and the usual method of degradation was and is, the beating of the person supposed to be possessed with a shoe; of course a worn shoe, plucked off the exorcist's or a bystander's foot. Should the devil still be staunch and hold his ground, then scourging and torture followed, and it is the same here today. The meting out of such cruel treatment to the mad man or mad woman was often diversified by appeals to the evil spirit, or spirits, to quit their abode, under coercion of the most holy names, and the name of the Almighty; this course is very often adopted in India by Mahomedan exorcists.

Ecclesiasticism has also been charged with being the cause of many of the diseases of its early days and middle period, for ecclesiastics then fostered and extolled dirt—to be a saint came to be synonymous with being a dirty fellow. The ecclesiastics of those days were quite oblivious of the teaching of Saint Paul, that cleanliness was next to godliness. Saints who never washed were in high repute, as the *fakirs* and *yogees* who have acquired the same habits of filthiness, are today in India. *Noli me tangere* should be affixed to their persons; for to touch some of them means pollution. The dirtiest saints being the most holy saints. The clergy, to acquire a repute for sanctity were dirty too, and the laity wallowed in filth, according to modern conceptions of cleanliness. The Nemesis for this gross breach of sanitary laws appeared in the form of plagues; the great Plague of London, the Black Death, and similar outbreaks of disease spread terror and death, like a great rolling wave, from one end of Europe to the other, and millions perished under each visitation. The dirty filthy habits of the people bring a similar judgment in India almost annually.

The most serious charge against ecclesiasticism, however, is, that when knowledge increased and ecclesiastics knew better, they yet continued to teach and still try to foster, a belief in superstitious methods of cure, because, this method was profitable; the revenue annually resulting from the use of saintly relics, the visitation of saintly shrines, was at one time enormous, nor inconsiderable now.

It was not till two hundred years ago or about the seventeenth century, that through the courage and enterprise of one man, medicine, and especially surgery, emancipated itself partially from the yoke under which ecclesiasticism had placed it; and this partial emancipation has led eventually to complete freedom. It was when Vesalius arose that this happy result was brought about, he practised dissection and laid the foundation of the school of modern anatomy, notwithstanding ecclesiastical censure and condemnation. He risked the virus of the plague and the fires of the Inquisition to obtain material for his investigations. If he had not died suddenly when sommoned to appear before the Inquisition at Rome, he would doubtless have been burned at the stake, for, as we have said, ecclesiasticism considered dissection a sacrilege.

Ecclesiastics before and after the *Renaissance* were zealous students of Aristotle, upheld the travesty he taught, studying nature and nature's laws on wrong principles. Little wonder that after such an education they looked suspiciously on any attempt to grapple with disease in a rational way, that is, by seeking its cause, by looking upon disease as only a departure from the conditions of health, and those who sought to treat disease on this method found no favor with ecclasiastics, but condemnation. Not only is this true, but it is also true, as we have stated, that ecclesiastics preferred to invoke saints rather than to accept hygienic teaching, and they assured the people that such invocation to departed saints led them to intervene and heal the sick.

The true reason why, ecclesiasticism supported so stoutly, the doctrine of the invocation of saints being effectual to cure the sick, is to be found in the vast influence it gave the clergy over the people, it subjected all classes to their sway, high and low, rich and poor, learned and unlearned, and it was profitable, putting vast sums of money into the ecclesiastical purse. The love of money, and the love of power, are the ruling passions of most men either singly or combined. Yet, despite opposition there have always been witnesses for the truth, whatever that truth may have been, though they have often been a poor minority, such as they were at this time. Such men did teach and try to practice, that disease should be treated according to the teachings of nature and science. They asked, that common sense, which is generally accepted, and popular truth, be allowed to exert its influence in the treatment of disease, but they received scant courtesy. These men found as all those do who oppose current opinion and the opinion of the powerful, that they had to contend against great odds; clouds of ignorance and superstition on the one hand, and on the other, the supercilious contempt and strong hand of the mighty, and they hid their light.

As we have seen, ecclesiasticism treated lunacy as a demoniacal possession, and epilepsy too. Holding such a belief ecclesiastics should have been prompt in checking the sufferings of the afflicted; but book, bell, and candle, with copious besprinkling of holy waters were only brought into requisition when a heavy fee was paid. Ecclesiastics did nothing without a fee.

In India, to repeat for emphasis, we have a personal and unsavoury experience of the filth accumulated on the persons and garments of *fakirs* and *yogees*, and the filthier these religious mendicants are, the more they are esteemed. The ecclesiastics and *religeuse* of the middle ages obtained sanctity on similar principles; dirt and filth on person and garments were marks of holiness. It is really wonderful that the whole of Europe then, and India now, was, and is not offered as a holocaust to filthiness; dirt and filth breed, augment, and perpetuate disease.

It is in the Bible that we find the first allusion to sanitation and the first sanitary laws, and the Jews, who still practice the sanitary measures inculcated by Moses are according to statistics, the longest lived and the healthiest of the human races. Deformity of person is rare among them. They are the one race among whom the laws of heredity work beneficially.

Having given one side of the question, we will now record what can be said in favor of the attitude assumed by ecclesiasticism towards medicine in its early days and subsequently down to recent times, and from this side of the question, the science owes on the whole, a debt of gratitude for the aid afforded by ecclesiasticism. Ecclesiastics have done much against medicine and ecclesiastics also have fostered and preserved medical knowledge. From one point of view it is easy to denounce ecclesiasticism and show up all that can be said of its opposition to medicine. It is easy to say that ecclesiasticism has always been antagonistic to rational medicine, and chiefly during the mediæval period. It is doubtful, however, whether such a contention can be established.

Ecclesiasticism, following the spirit of christianity in this, taught men to estimate man and human nature justly, and thus opposed and condemned the heathen views which stated broadly meant, that the human race consisted only of two classes, the wealthy and the indigent, the freeman and the slave; one having all the comforts and luxuries of life even in excess, the other having nothing, not even liberty; the one were rich and noble, the other slaves. There was no middle class as in modern times, and which class, is the mainstay of every nation. Even in cultured and philosophical Greece, and in Rome in the days of her splendour, the patricians and the plebians were the two classes, and the latter were looked upon as goods and chattels, so that, if a slave was sick and his master had him attended to medically, it was because the sick man represented a money value, and not generally from any feelings of humanity. The dealer or owner of horses, cattle and dogs, has his sick beasts attended to on the same principle and in the same spirit; but when ecclesiasticism arose, the doctrine of the one blood of all nations of the earth, or the brotherhood of man, preached by Saint Paul in the early beginning of christainty was taken up and continued to be taught by ecclesiastics, and they still continue to teach it up to the present, though it is not practised as it should be.

The inculcating of this doctrine of the brotherhood of man and the humanitarian views it gave birth to and developed, produced a new era in the history of the human race, an era of peace and good will, and the old views began gradually to give place to the new, to views which ceased to regard the poorer and feebler among men and women as only born to serve and to suffer, and to die if necessary, in the services of those who were happier born.

The old views began to pass away and the new views to prevail, and these views lived through the darkness which like a thick pall enshrouded ecclesiasticism by and bye, and hid all those generous, noble and inspiring teaching for centuries, the spirit of christianity enjoined and embodied in practical efforts in apostolic days, and later seemed dead. However, these views were burried but not lost, for though ecclesiastic and laity alike forget the basis of their faith, yet some few, kept the doctrine in their dealings with their fellow men, and from these few it spread to others till the days when John Huss arose, and Wycliffe in England, and Martin Luther a century after John Huss. From the days of Luther the happy teaching, that a man should do to his fellow as he would be done by, has been nurtured, and now it is publicly acknowledged by Christendom, though alas! the spirit of the teaching is not lived as it should be; yet, for all shortcomings notwithstanding is bearing noble fruit in the charitable institutions of Europe and America, and in missionary enterprise, spiritual and medical, in distant and heathen lands.

We are instructed both in head and heart if we endeavour to trace the creation and extension of hospitals from their early beginnings up to the present time, when, we have great hospitals and special hospitals. Hospitals and the hospital system owes its creation to the early ecclesiastics, the monks and friars, who undertook to help the helpless and the suffering, and it is to the ecclesiastics called otherwise the early fathers of the church, that we owe the rescue and preservation of much that was sound in ancient medicine.

The great Infirmary at Cæsarea founded by the early ecclesiastics, massed and grouped its patients, giving opportunity for the observation of disease, and on a scale sufficient for pathological and therapeutic induction. This infirmary has been an ensample followed by subsequent hospitals as hospitals multiplied, till we reach the hospital system of to-day. Thus medicine owes a considerable debt to ecclesiasticism, and probably, the aid confered on the art by ecclesiastics, would be found, if fairly weighed, to counterbalance all the opposition of ecclesiastics.

Medical News Letters.

LONDON LETTER.

[From our own Correspondent.]

New Medical Honours.

The baronetcy which the Queen has conferred upon Dr. Broadbent, on the occasion of the recent Royal marriage, has given universal satisfaction to the medical profession here. Sir William Broadbent is Physician to St. Mary's Hospital, and

attended the Duke of York during his attack of Typhoid Fever, and afterwards the late Duke of Clarence during his last illness. One reason for his being called in to attend the Duke of York was the fact that he is Consulting Physician to the London Fever Hospital, another, that he has been for some years medical adviser to Lord Rothschild, who recommended him strongly to the Prince of Wales. His baronetcy brings the total number of living medical baronets up to ten; of these 5 are Physicians, and 5 are Surgeons. Sir William Broadbent's eldest son is a member of our profession, and lately was House Physician at St. Mary's Hospital; he will succeed to the title on his father's death. It is a curious fact that, with only one exception, the eldest sons of the medical baronets have not chosen to follow the same profession as their fathers; the one exception is the son of Sir Andrew Clark who is in the Indian Medical Service.

The other medical honour has fallen to Dr. Laking who has received a knighthood. Sir Fancis Laking is Apothecary to the Queen and Prince of Wales, and has attended as general practitioner on most of the members of the Royal Family.

Guy's Hospital.

A large addition to the out-patient department and school of Guy's Hospital was recently opened by Sir John Lubbock. The great part of the addition is taken up by the new dental department, where accomodation for 80 dental chairs is provided, all of which are in use daily. The dental school at Guy's is now a large one, and it was stated the other day, that twenty-five per cent of the dental students, are also studying for the full medical diploma of the Conjoint Board of Physicans and Surgeons. This is a great sign of the improvement of the standing and education of dentists. Some new physiological and bacteriological laboratories, have also been added to the school, the former under the charge of Mr. Golding Bird and Starling, the latter under the charge of Dr. Washbourn.

St. Thomas' Medical School is also being enlarged, and new laboratories and class rooms added, besides a new dining and reading room for the students. The idea of a residential college has not yet been adopted at that school. The medical schools which have residential colleges attached are, St. Bartholomew's, St. Mary's, King's, Middlesex, and Guy's. Ten years ago only two schools, namely, Bartholomew's and King's had these arrangements. In the case of young students, this system is undoubtedly of great benefit, as the temptations of London are great to the young and inexperienced, the association with older students and moderate restraint of these colleges is extremely salutary.

Medical Quacks.

An action was recently brought by a man named Allabone, against a former Assistant of his, to restrain him from using testimonials, etc, belonging to the plaintiff. Mr. Allabone is the proprietor of a quack medicine for the cure of consumption, and though formerly a member of our profession, he was struck off the rolls for advertising. He alleges to cure consumption by the use of a drug called *lacnanthes*, and has written a large book with reputed successful cases. This book has fallen into my hands, but the less said about it the better. The scientific and clinical description of phthisis are such as would be written by an ignorant man, and there is no evidence beyond Mr. Allabone's now, that most of the patients ever had phthisis before his treatment. Morton of course was using the same remedies, he had never been a doctor, so perhaps his actions are less disgraceful. The judge regretted that he was to give the verdict for Allabone, but hoped that the Apothecaries Society would prosecute both Allabone and Morton for acting as Apothecaries without legal qualification.

Transactions of Medical Societies.

THE CALCUTTA MEDICAL SOCIETY.

The eighth meeting of the Society took place at the Medical College theatre, on the 8th of August, at 6 p.m.

The following business was announced prior to the meeting.—

1. Post-Nasal Adenoid Growths, By Dr. Caddy.
2. Discussion on Diabetes.
3. Cases and Specimens.

Dr. Caddy read his paper on post-nasal adenoid vegetations. He first dealt with the history of the affection, and said that the first mention of it in medical literature was about 24 years ago, but it was only in 1881 that, it was actively brought before the notice of the profession by Dr. Meyer, and since then it has been given its recognised place. He then dealt briefly with the pathology of the affection, and continuing said, they are produced by hypertrophy of adenoid tissue in the nasal cavity. In slight cases there is only redness, but in severe attacks general engorgement accompanied by deafness due to the opening of the eustachian tubes being blocked. Hearing is impaired, and catarrh, suppuration and perforation may follow. Mouth-breathing is present and in these cases the nasal cartilages fall together, and the face has a peculiarly vacant expression from breathing with the mouth half open, and is due to the obstruction of nasal respiration. Children very often cry out. Should any of these symptoms be present, the surgeon should suspect and examine for this affection. To the finger behind the palate they feel soft, pulpy and velvety. The causation is cold, damp, pollution of atmosphere, and it is perhaps hereditary, as one often meets with it in whole families. The age at which it is most common is between 7 and 10 years. The evils consequent upon the disease is imperfect æration of the blood, it also interferes with the development of the chest. Children who suffer from these vegetations are constantly catching cold, are very backward mentally, and are late in learning to speak, have bad memories, and are not able to fix their attention on anything.

As to treatment, caustics are useless, operative measures are the best, by removal, which may be done in many ways. The softer ones may be scraped away with the finger-nail, and those which cannot be thus removed are best cut away by Meyer's knife introduced through the nose, and the larger ones by Lonnenburgh's forceps passed behind the palate.

These tumours can be removed without chloroform, very often they are removed, the patient sitting on a chair. Cocaine may be used in the from of a spray, or in the case of children, they may be chloroformed to be kept quiet. A towel is placed on the head to protect from bleeding, and the finger is introduced into the mouth. Hæmorrhage is free. Before attempting to remove the growth, the question of hæmorrhage should be considered. The results are very satisfactory.

Dr. OKinealley.—He said, I have had the opportunity of treating 3 cases, all Europeans, 2 were brothers and the father had a nasal twang after operation.

I advise the patient to be kept in bed for 3 days on slops, and then indoors at home for 3 days, and then let go—No after treatment is required excepting keeping a bandage on the mouth to compel the child to breathe through the nose.

Dr. Raye.—He shewed a peculiar kind of knife used for the removal of these vegetations. He had had only a few cases and they were in Eurasian children. The disease was not at all common amongst Bengalees.

Dr. Bose.—He had met with only one case in which he had the opinion of Dr. McLeod. He said the Society was greatly obliged to Dr. Caddy for his interesting paper.

Dr. Zahiruddin said he had not met with a single case in the Campbell Hospital.

Dr. Raye.—The disease is very rare, and it is only lately that European writers have said anything about it. It often escapes notice although present, and is treated for various disorders of the ear and throat.

Dr. M. N. Chatterjee then read notes of a case of removal of a malignant tumour in a native male, aged 32, on the side of the neck. It was glandular and nodulated, and included the lower jaw. There was a history of rapid growth, and an operation was considered necessary, but as the patient could not come into Hospital, I was forced to do it outside, in a house in Fouzdari Balakana; and he was operated on, on the 17th of July, and the tumour removed. The tumour was very vascular. After enucleation the flaps were brought together by catgut sutures, and dressed antiseptically. A portion of the right submaxillary gland had also to be removed as also the entire belly of digastric and hyoglossus muscles. Under the microscope the tumour was found to be a cancer. The wound healed by first intention, the highest temperature being 99.4°F. One complicatcn occurred, a fistulous opening remained probably in connection with a bit of the gland duct.

The points of interest in the case were the vitality and constitutional resistance shewn by the patient, and the inconvenience of the surroundings when the operation was undertaken. Dr. Chatterjee then shewed the patient to those present.

Dr. Bose then referred to the paper read by Dr. B. C. Sen on Diabetes at the June meeting, and was about to introduce the discussion on it, when Dr. Sen asked that this matter be adjourned till the next meeting, owing to Dr. Joubert's absence, who had taken a very great interest in the paper and it was at his suggestion that, a discussion on the subject was at first arranged. This being seconded, the meeting was brought to a close.

THE CALCUTTA MICROSCOPICAL SOCIETY.

A large number of the members and friends of this Society, among them several ladies, assembled at the Asiatic Society's rooms in Park-street, on the evening of the 14th August, to witness an exhibition with the gas microscope by Father Lafont.

The oxy-hydrogen microscope which was exhibited was one of Swift's best instruments; having been specially ordered out from England by Sir Henry Cunningham for the purpose of illustrating the lectures formerly delivered by the members of the Public Health Society. Owing to the decline of this Society however, Sir Henry presented the instrument in question to the Microscopical Society on the condition that if the Microscopical Society ceased to exist, the microscope should become the absolute property of the Asiatic Society of Bengal. Having found by experience that such organizations in Calcutta are generally short-lived, he made his handsome gift conditional as an incentive to the maintenance of a Society, which supplied a long felt want in Bengal. The object of the Microscopical Society, which has justified the wisdom of Sir Henry's choice in making his donation, is to bring together amateur microscopists residing in Calcutta and throughout Bengal in order that they may meet for the purpose of discussing observations and discoveries in a mutual and friendly manner, and without that diffidence and constraint which amateurs naturally feel when formally joining issue on scientific subjects in the presence of only professional specialists. Though this is the essential characteristic of the Microscopical Society, it has never sought to work independently of specialists, but, on the contrary, has always looked for guidance, counsel and help, and to that end Dr. Simpson was elected to be its first President, and the late Mr. Wood-Mason its first Vice-President.

Father Lafont, in response to the call of Mr. T. H. Holland, the President of the Society, then gave with the aid of the gas miscroscope, a clear delineation upon the wall of various objects, prominent among which, were the poison bag of the bee and sting, the head of a cricket, the intestines of a mouse, a section of a tapeworm, the claws of a spider, the skin of a frog, the eye of a fly, a section of a horse's tooth, a section of a sarsaparilla, and a section of a granite from the tomb of Job Charnock. At the close of the exhibition of objects, Father Lafont announced that he was getting out a polariscope from Paris, and that when this instrument arrived he would be able to give them an exhibition of polar light.

Dr. Simpson next proposed a vote of thanks to Father Lafont. In doing so, he said that that was one of the most enjoyable evenings they had spent since the formation of the Society, and he hoped that this was the beginning of a series of lectures, which Father Lafont would give.

Dr. King seconded the vote of thanks which was carried unanimously.

Mr. Holland then announced that the next meeting of the Society would be held on the 11th of September. This brought the proceedings to a close.

INSURANCE !!!

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Current Medial Literature.

PLEURITIC ECLAMPSIA.

A rare, interesting, and instructive case has recently been reported by M. Ch. Talamon, the accomplished editor-in-chief of our valued exchange, *La Médicine Moderne*. A few cases have been heretofore observed in which convulsive seizures had taken place during the course of a pleurisy In all the former instances suppuration was present and the spasms were consecutive to irrigation of the pleural cavity. It was, therefore, plausibly supposed that the eclampsia was of reflex origin, due to irritation of the serous membrane, Dr. Talamon justly points out, however, that numberless injections have been made into the sac without producing convulsions, and that, moreover, this result never followed the first operation, but occurred after the pleura had been accustomed to contact with a fluid introduced from without. In the case which formed the subject of his paper there had been no suppuration, and the epileptic attack was produced spontaneously, without any artificial irritation of the pleura.

The patient was a laborer, fifty years of age, who entered the Hospital Tenon on December 16, after having suffered for four days from pain in the right side. He had been attacked suddenly with pain and chills; he had endeavored, nevertheless, to go about his work, but had finally been compelled to seek the hospital. Upon his entrance there was found dullness in the lower two-thirds of the right side of the chest, together with a slight diminution of the local vibrations. There was a superficial murmur and œgophony in the axilla and behind, extending to the angle of the scapula. At the base there were fine subcrepitant râles The urine contained no albumen. The temperature was 102°. There was some cough with tough, viscid, rusty sputum like that of pneumonia. Some subcrepitant râles were also detected at the left base. The pain, the temperature, and signs persisted during the days following admission, and the diagnosis was made of pneumonia, accompanied by a secondary pleurisy. Six days after coming into the hospital the expectoration became mucopurulent, the signs remained the same, and the fever endured. An exploratory puncture brought away a yellowish serous fluid. On the 2nd of January there was some improvement in the signs, but no reduction of temperature. On the 7th, aspiration was performed, and one and three-fourths pints of limpid, yellowish serum withdrawn. Three days later, about 7 o'clock in the morning, after a quiet night, the patient was suddenly attacked by a convulsion, with loss of consciousness. The unconsciousness continued when he was seen by the reporter, at 10 a. m. The crisis had begun with loss of consciousness. This was followed by a general rigidity of the body, tonic and clonic spasms, and frothing at the mouth. Later, opisthotonos occurred, the face was pale, the lips livid, the eyes wide open, the pupils contracted. Unconsciousness persisted until 5 o'clock in the afternoon. The convulsions had yielded at 2 o'clock.

On the following day the patient had no recollection of what had passed; he had a bewildered expression, and replied at random. Four days after the seizure there was still hebetude, with incontinence of fæces and urine; there was no albuminuria. The fever persisted. In this condition the patient remained until the 31st of January, when, in the afternoon, he experienced an attack similar to the first. From the second seizure there was no reaction, and death took place at the end of six hours.

The autopsy showed the presence of a right-sided pleurisy, with scanty effusion, and very thick false membranes attaching the pleura to the lung. There was atelectasis of the lower lobe of the lung and congestion of the upper. There was no trace of recent tuberculosis, but an old caseous focus was found at the summit. On the left side there was some pulmonary consolidation with some soft and recent false membranes, and a few spoonfuls of serum in the pleural cavity. To naked-eye observation the brain and its membranes were perfectly normal.

The eclamptic attacks in this case were of precisely the same character as in the cases heretofore described, and which depended upon irrigation of the pleural cavity. The former had, however, been of shorter duration, and the stupor had disappeared at the end of some hours. In none were lesions of the brain detected, or any other condition, except that of the pleura, capable of explaining the occurrence of convulsions. These, in the case reported by Dr. Talamon, could not be of reflex origin, since they occurred spontaneously three days after a simple puncture made with a hypodermic syringe, and attended by no inconvenience. Reflex manifestations are usually preceded by local accidents, but, in the case under consideration, there was first a loss of consciousness, followed by convulsions and generalized contractures, together with a coma which, in gravity and duration, exceeded that of simple reflex irritation. The manifestations bore far more resemblance to a toxic eclampsia analogous to puerperal, saturnine, or uræmic eclampsia. It is, therefore, reasonable to suppose, writes the author, that the phenomena were due to the sudden entrance into the blood of a toxic substance which acts upon the brain and probably the bulb as a convulsive poison. In this particular case the poison would be the toxin of pneumonia. The pleurisy depended upon a pneumonic origin. The abrupt commencement, the elevation of temperature, the rusty sputum of the first days, the abundant fibrinous exudation in the pleura, and the posterior development of a lobar pneumonia

in the opposite lung, all indicate that the pleural inflammation was due to the action of the pneumococcus. For the production of convulsions we must suppose one of two conditions —either a special susceptibility of the subject, or the sudden entrance into the circulation of an abnormal quantity of poisons. The former could not be attributed to the patient of Dr. Talamon. It is necessary, therefore, to adopt the latter supposition. It will be remarked that, the first convulsion followed a puncture of evacuation, and a consequent absorption of a large part of the effusion. Is it not possible that this absorption introduced into the blood a sufficient quantity of pneumotoxin to irritate the central nervous system? The second, and fatal attack, may be explained by the formation of a fresh pneumonic focus in the opposite lung. The toxins produced in this new situation and thrown into the blood exerted their influence upon a brain still under the impression of the first attack, and were sufficient to reawaken that morbid impression, the effects of which had not yet entirely disappeared.—*Medical Bulletin.*

INTRA-CRANIAL SURGERY.

After a critical discussion of thirty cases of intra-cranial surgery, and the study of the methods of operation, Jaboulay (*Arch, Prov. de Chir.*, Fev. et Mars, 1893), in speaking of the value of operative interference, says:

But if there are some cases in which we must not open the dura mater, as in essential epilepsies, microcephalic idiots, rebellious cephalalgias, etc.—in those cases, in a word, in which we do not suspect a macroscopic lesion, and expect the trephining to act not by a dynamic force, but by a potent though unkown mechanism—there are others in which, a deep lesion existing, it is necessary to incise this membrane. Without this, how should we evacuate a hæmatoma, empty an abscess cavity or a focus of cerebral contusion, extirpate a tumor, and give issue to an œdema cerebri? Doubtless good results have been obtained by trephining without incision of the dura mater, as we have seen in cerebral tuberculosis; and inversely, we have seen an amelioration in a case of true Jacksonian epilepsy, after incision, where it was impossible to find any lesion of the cortical substance.

These two cases create a certain amount of difficulty in attempting an explanation of the mode of action of the trephine. Is it simply the operation that modifies the excitability of the cerebral cortex and produces inhibition? That is the conclusion we have arrived at, and we antagonize the idea supported by many surgeons, that its action is the purely mechanical relief of compression. It is because it produces inhibition that the trephine is serviceable in the essential epilepsies or the post-traumatics without macroscopic lesion, and in certain tumors of the deeper cerebral mass; and, as we have said, that inhibition may be accomplished without necessarily opening the dura matter. It is, therefore, a question if in cases where operation is determined upon in tumors situated in the substance of the cerebrum or of the base, we should treat them in this manner. But if the value of trephining is nearly *nil* in tumors situated deeply or centrally, if our prognosis must be graver if we incise the dura, yet it must be remembered that this operation is good for tumors situated superficially and capable of extirpation. The cessation of epileptiform crises of pain and of paralyses can be obtained by this method. Oftentimes a complete ablation is impossible, and particles remain; we find the amelioration proportional to the amount of excision. It is the rule, however, to see diminish, but not disappear, the symptoms which had persisted before operation. Those conditions due to an augmentation of cephalo-rhachidian fluid, meningitis, general paralysis, and serous apoplexies appear to have been benefitted by the operation, with incision of the dura. This intervention, if made early, will produce good results.

The prognosis and the value of trephining, setting aside the complications of wounds, faults in operating, and those that come in the dressings, are better the more superficial and circumscribed the lesion is to which they are attached. The hæmatoma of the dura is the best in point of prognosis; after which we place tumors of the meninges, then of the cortex, likewise abscesses of the superficial regions. Diseases localized in one anatomical system, as serous meningitis, are less serious than those that embrace, in mass, all the intracranial substance, as traumatisms after fracture and gunshot wounds; the former have been benefitted while the latter are beyond the aid of our art. We can say that those diseases confined to one anatomical system, as a beginning meningitis, are more amenable to surgical treatment than those involving less area but more deeply situated. For example, we prefer to treat a meningitis rather than a tumor of the base, or one in the depth of a hemisphere, and, of two partial meningites, that of the convexity offers more chances.—*Amer. Jour. of the Med. Sciences.*

DANGERS OF VAGINAL PESSARIES.

Dr. Neugebauer, of Warsaw, has published an exhaustive analytical monograph on this question, so important in these days when gynecology is widely practiced by the surgeon and physician as well as the specialist. Two hundred and forty-two cases of injury have been collected and analyzed, five more being added in an appendix. Tabulating the results, Dr. Neugebauer presents the medical public with the following formidable statistical records: Twenty-three cases of perforation of rectum alone by the pessary; twenty cases of perforation of the bladder alone; ten cases of perforation of the bladder and rectum; one case of ureteric fistula alone; one case of ureteric and vesico-vaginal fistula; one case of urethral-vaginal fistula; two cases of perforation of Douglas' pouch (neither fatal); three cases of perforation of the vaginal walls, the extruded portion of the pessary lying in the pelvic connective tissue; and six cases of entry of a vaginal pessary into the uterus.

As to age, one patient was ninety years old; she had worn a wooden pessary forty-five years. The youngest was nineteen. The time during which the pessary was worn (and often forgotton) is tabulated, the nonagenarian just mentioned heading the list; two other women wore their pessaries for forty years;

and twenty, besides these three, wore the instrument over twenty years. The toleration of the vagina is very varied in different individuals, even for the same kind of pessary; thus in some cases the pessary became fixed, and tended to ulcerate into the vaginal walls within two or three months, whilst in others the appliance was worn over twenty years without causing any objective or subjective troubles. How fetor could have been absent in these tolerant cases it is hard to understand. We must remember that the same kind of pessary is not always introduced with the same skill, whilst other pessaries may be bad in principle or ill-made by the manufacturer, and lastly, the patient very frequently forgets that she wears a pessary, hence the share of blame which the introducer of the instrument should bear is not uniform.

When the patient is not aware that the instrument has been inserted, as is often the case, the medical attendant must undoubtedly have shown great skill and gentleness in introducing it, but he may not have taken sufficient pains to impress upon her memory the fact that the instrument has been introduced, and must not be worn for many months. This is the commonest cause of pessary accidents at the present time, for the art of introducing pessaries is readily acquired, experience is easily obtained, and the favorite pessaries are no longer barbarous instruments, whilst the patient may misunderstand such information as "I have passed a Hodge," or "You are wearing a Zwanck," and go away with the belief that she is *not* wearing a pessary. As to the merits and disadvantages of the almost innumerable froms of pessary, we must refer the reader to Dr. Neugebauer's valuable paper. The moral is that the introduction of a vaginal pessary is a minor surgical proceeding, but if performed carelessly may lead to results in no sense "minor," but, on the contrary, very serious.—*British Medical Journal.*

THE SPECIFIC TREATMENT OF CHOLERA.

Imbued with the idea that as a result of tissue-metamorphosis there are produced in the lower organisms, as in the higher, certain substances, some of which (designated autotoxines) are protective and conservative, Klebs *(Deutsche medicine. Wochenschr.*, Nos. 43 and 44, 1893) has endeavored to separate from cultures of cholera bacilli those substances that are injurious to the human organism, leaving those that are inimical to the cholera organism. To this end he filtered sterilized cultures of cholera bacilli and concentrated the fluid obtained over the water-bath. From this, by means of absolute alcohol, he precipitated the substance which he believed to be injurious to the human organism, leaving in solution the substances that he believed are bactericidal, curative, and immunifying, to which the name anticholerin is given.

It was first shown that, when mixed in small proportion with agar and gelatin, this material possesses the power of preventing the development of cholera-organisms inoculated upon these media, as well as of checking the development of the organisms when already in process of cultivation. Other organisms were not similarly influenced. Next it was shown that anticholerin is not toxic for guinea-pigs, and subsequently the same fact was demonstrated with regard to man. The next step was to demonstrate that guinea-pigs previously treated with anticholerin were proof against incoulation with cholera, while untreated animals, under the same conditions, presented characteristic local and general manifestations. It was also shown that immunity was conferred as a result of the treatment of other animals with the fluid that collected in the abdominal cavities of such animals as were inoculable. Finally, it remained to be determined if any therapeutic results could be obtained in animals already infected with cholera.

These various points having been determined in the affirmative, the agent could now legitimately be employed in the treatment of cases of cholera in man. With the consent of the authorities at Hamburg a number of patients were thus treated, and the results are published by Manchot (*Deutsche medicin. Wochenschr.*, No. 46, 1892, p. 1,050). The cases selected were of the higher and the moderate grades of intensity, and numbered thirty-one; of these, twenty-one died—a mortality of 67.7 per cent. Of 103 parallel cases treated with saline infusions, eighty-seven died—a mortality of 84·5 per cent. As a rule, one c.cm. of the agent was injected on the first day six or seven times; on the second day, five or six times; on the third day three times; on the fourth day, once or twice. Each case received from fifteen to eighteen injections. The largest total amount given in any one case was 30 c.cm. Depression of temperature constituted the indication for giving the injection, which was almost invariably followed by febrile reaction. Of course, warmth, stimulants, hypodermatoclysis, enteroclysis, venous transfusion, and such other measures as seemed indicated in the individual case, were employed in conjuntcion with the injections.—*Amer. Jour. of the Med. Sciences.*

VARIATIONS IN THE AMOUNT OF THE BLOOD IN HEALTH AND DISEASE.

Livierato (*Gass. degli Ospitali*, May 11) has endeavored first to determine the presence of glycogen in the blood in health and in various diseases, and the variations in its amount at various stages of a given disease. Secondly, he has studied the presence of glycogen in the blood of gravid and puerperal women, and its quantity. Thirdly, he has endeavored to ascertain the influence of the ingestion or injection of syrups and peptone on the quantity of glycogen in the blood, both in health and disease. The following is a summary of his chief conclusions:

1. In nearly all forms of disease the glycogen reaction is more or less evident, either in extra-cellular masses or in the bodies of the leucocytes.

2. The reaction of glycogen occurring in the leucocytes is an indication of an increased amount of this substance in the blood.

3. The reaction is more marked in cases of pneumonia than in other diseases, its intensity being in direct proportion to the extent of the pulmonary mischief, and to the rise of tempera-

ture; it is especially marked in cases complicated with albuminuria and peptonuria.

4. In typhoid and phthisis, and in the exanthemata, the glycogen reaction is proportional to the amount of pulmonary mischief and the rise of temperature.

5. In acute rheumatism the glycogen reaction is often absolutely wanting, notwithstanding the high temperature and the extension of the foci of affection.

6. In cases of multiple suppuration the quantity of glycogen increases markedly, even though the temperature be low, and the same thing occurs in pyothorax,

7. In pleurisy, peritonitis, etc., the reaction is again almost always absent, notwithstanding the high temperatures occurring in such cases.

8. Glycogen is also nearly absent in cases of hepatic affections, and in cardiac diseases attended with œdema.

9. In diabetes there is never more than a very little extra-corpuscular glycogen; its actual amount is in inverse ratio to the amount of glycogen in the urine.

10. In the pregnant woman intra-corpuscular glycogen is only found in the last four months of pregnancy; in the puerperal woman it occurs only during the first four months.

11. Ingestion of syrup or peptone had no influence in the cases studied.

12. The injection of peptone hypodermically caused elevation of temperature and increase in the amount of glycogen in the blood.

It is thus seen that the glycogen in the blood increases generally in cases in which there exists a local active disease, accompanied by febrile reaction, and in which are formed exudations capable of peptonization. The quantity of glycogen also increases in cases in which there is albuminuria and peptonuria, and may be entirely wanting in cases of inflammation of the serous membranes with liquid exudations, or in cases with local foci not giving rise to exudations. It seems probable from this and other facts that, as has already been suggested by Hoffmeister and Gabritchewsky, the leucocytes are able to produce glycogen directly from peptone.—*British Med. Journal.*

PATHOLOGY OF PARALYSIS AGITANS.

In the *Zeitschrift für Heikunde* von Ketscher has an important paper dealing with this much disputed subject. An abstract of it is given in a recent number of the *Neurologisches Centralblatt*. The cases of paralysis agitans, with reference to their pathological anatomy, are divisible into two classes, those in which the examination has furnished negative results, and those in which various changes have been found in the nervous system, such as hyperplasia of the connective tissue and neuroglia of the spinal cord, alterations in the nervous tissue itself and vascular changes. Similar changes have been described as occurring in the medulla and pons. Three cases of undoubted paralysis agitans have been investigated by von Ketscher. The nervous system, central and peripheral, was examined and in all three cases changes were found in both regions. The nervous structures showed atrophy, the ganglion cells of the brain were deeply pigmented and altered in form, the nerve fibres, both in the peripheral nerves and in the spinal cord, were degenerated and had in some instances disappeared, whilst the muscular fibres were also atrophied or degenerated. The neuroglia was thickened, especially around the vessels and mostly in the posterior and lateral columns. The vessels also were altered, their walls thickened, and there were miliary aneurisms and small hæmorrhages present. Similar changes, but slighter in degree, were found as senile changes in patients not the subjects of paralysis agitans. Von Ketscher concludes, with Borgherini and others, that paralysis agitans is only the expression of an extreme and premature senility of the nervous system, and he is of the opinion that the primary changes are in the vessels, those in the nervous structures being secondary.—*Jou. Amer. Med. Assoc.*

"PEACH FEVER"

In the *Maryland Med. Jour.*, February 18, appears an article on the above proposed new term by Dr. C. L. G. Anderson, of Hagerstown. Those who work in the peach-canning industry are liable to an irritation of the integument and respiratory tract, with some systemic *malaise* and elevation of temperature of one or two degrees. The author has known of one case where the illness was so great that the patient, a young woman, was compelled to quit her employment as a worker among peaches. The source of irritation is believed to be some germ having its habitat in the "fuzz" of the fruit. All varieties of fruit are not alike irritative, and all the workers are not alike susceptible. "There are pachyderms whom all this does not affect, but neurotic and tender-skinned young girls suffer considerably." The state of weather has something to do with the production of the "fever"; on cool and windy days or after a rainfall the irritating influence given off by the peach is scarcely noticed. But high temperature with high relative humidity favor the production of the trouble. There is no discoverable element of contagiousness in the disorder. The specific microbe, if any exist, has not been isolated.—*Journal Amer. Med. Assen.*

INJECTIONS OF COPPER PHOSPHATE IN TUBERCULOUS ARTHRITIS

In the *Province Mèdicale* for April 29, there is a condensed, account of the copper treatment of white swelling as practiced by Dr. de Saint-Germain. Two sloutions are prepared, and they are mixed without being filtered. The first consists of five parts of crystallized sodium phosphate dissolved in a mixture of thirty parts each of glycerine and distilled water; the second, of one part of copper acetate dissolved in a mixture of twenty parts each of glycerine and distilled water. Care is taken to shake the mixture of the two solutions before making use of it. All antiseptic precautions being observed, a hypodermic syringeful of the mixture is injected deep, preferably behind the great trochanter, and the puncture is sealed with a bit of absorbent cotton dipped in collodion. The injection is not specially painful, but in certain cases quite a sharp pain is felt

on the first or second day after the operation. When several injections are required, the author allows about a fortnight to elapse between them. The action of the injection is manifested speedily by a rise of temperature to from 100° to 103° F., and the fever lasts from one to three days; locally, tumefaction, tenderness, and diminished mobility of the tuberculous glands are observed. It is only after a variable length of time that the curative action is apparent. If at the end of a fortnight the pain persists, the injection is repeated.—*N. Y. Med. Jour.*

LEUCOCYTOSIS PRODUCED BY COLD.

Winterniz (*Centralb. f. klin. Med.*) has begun an investigation into the behaviour of blood cells during the external application of cold, and has ascertained their numbers before and afterwards. Within half an hour the number of white cells was considerably increased. How long this increase lasts cannot yet be definitely stated, but it was present two or three hours later. If leucocytes are phagocytes, the significance of this leucocytosis is readily appreciated. The good effects of the external applications of cold are certainly not due solely to any antipyretic action, for many drugs have a more decided action in this respect and yet do not produce the same beneficial results. In enteric fever it has been found that the urotoxic action of the urine is considerably increased —six to eight times—after the external application of cold; that is, that toxins are excreted in larger quantities. The value of hydrotherapy is thus shown. If enteric fever is treated in this way during the first week, the resnlts are much better than if the same treatment is adopted later. The value of cold in intermittent fever has also been proved. V. Jaksch bases his prognosis in acute pneumonia on the degree of leucocytosis present, and uses agents such as nuclein or pilocarpin to increase such leucocytosis. Further investigation is needed, and the hydro-therapeutic treatment of the acute infective diseases may thus be placed on a sound, but hitherto unsuspected basis.—*St. Louis Med. and Surg. Jour.*

A METHOD OF TREATING COMPOUND FRACTURES.

The method aims at being simple, and in the following account it may be considered as applied to the commonest of compound fractures, viz., those of the ieg. On admission, the limb is covered with lint soaked in carbolic lotion and is subsequently cleaned with the greatest care; protruding bone is replaced, loose or damaged bone is removed, and the broken ends are adjusted by means of splints with as little delay as possible.

1. Ordinary well-padded wooden splints are employed, but under no circumstances is the limb secured to the splint by means of strapping. Strapping may be used to from a stirrup whereby extension may be applied in the fractures of the femur or humerus, but no form of plaster appears to be other than objectionable when the question of fixing the limb is concerned. If the strapping be adjusted with sufficient firmness, it will often be found that within twenty-four hours the limb has swollen and the strips of plaster are cutting into the soft parts and are impeding the circulation. The strapping then has to be cut or reapplied, and a second adjustment of the limb is rendered necessary. On the other hand, in process of time, the band of strapping is found to have become loose from shrinking of the limb, and a further readjustment of the fractured parts is called for. In the place of plaster, straps of fine webbing and buckles are made use of to secure the limb to the splint. These vary in length, and are applicable to all parts. If found to be too tight or too loose they can be altered as often as necessary in the day without the least disturbance of the limb. In this way the limb can be secured with a proper degree of firmness. Where the webbing crosses the shin or the dorsum of the foot a small shield made of gutta-percha, and lined with lint, is interposed. When side splints are employed these also are held in place by straps and buckles. No bandages are ever applied. They are quite unnecessary. They cannat be readily tightened or loosened, and they cover up to an undesirable extent the damaged parts.

2. In the second place the limb is kept throughout in the open air. This would happen by necessity, more or less, in the case of the upper limb, but it is insisted upon also in al fractures of the lower limb in which there is a wound. If the principles of aseptic surgery be well founded, a worse atmosphere with which to surround a wound could scarcely be found than that which exists under the bedclothes. This atmosphere is confined, is hot and moist, and when flatus is passed or the bed-pan is used must of necessity become especially offensive. In all compound fractures of the leg or thigh the limb is kept throughout entirely uncovered as well by night as by day and in the winter as in the summer. In cold weather the nurse makes a cotton-wool cap for the foot, but during the six years in which this rule of uncovering the limb has been observed there have been no complaints of chill or evils arising from exposure. It might be mentioned that in the author's wards in all cases of wound of the lower limb, including amputation wounds, and in all cases of ulcer, the part is kept throughout the whole period of treatment uncovered save by the necessary dressings, and since this plan has been adopted the results have been infinitely improved.

3. The third element in the treatment concerns the care of the wound. In case of compound fracture there is usually a not inconsiderable amount of bleeding and oozing from the wound which will often be continued for many days. It is very desirable that this fluid should not be pent up in the limb, and that it should be allowed the freest possible means of escape. The plan of sealing the wound with collodion may be spoken of in general terms as bad. It can in no way control the oozing, which may long continue from the damaged parts, and merely confines within the recesses of the limb a fluid which is admirably adapted for the development of bacteria.

While a free exit should be given for all discharges of blood and serum, such a barrier must, at the same time, be erected as will prevent the entrance of pus-producing bacteria. A dressing of antiseptic gauze wool may possibily meet these

conditions, but in a large proportion of cases such a dressing needs to be very frequently changed, and such a change cannot always be effected without disturbing the position of the broken bones and putting the patient to no little inconvenience.

In the present collection of cases the wounds have been simply covered with a heap of dry antiseptic powder, which has been applied without stint. This covering of powder may be considered to seal the wound, so far as the possible entrance of bacteria is concerned, while at the same time it in no way impedes the free escape of blood and serum from the damaged parts.

The discharge finds it way into the protecting powder, and forms with it a harmless scab or crust. As the powder, becomes saturated, more and more of it is applied, but the crust produced is not disturbed. In certain cases the oozing continues for many days, and in one or two instances the crust produced has exceeded the size of the adult fist. The powder employed has been iodoform or creolin. The latter has been found to be the more convenient. For the first few days the powder may need to be dusted on every few hours, and as the limb is kept always uncovered the saturation of the crust can be at once noticed. When no more blood is found to be escaping the powder is discontinued, and some seven days after this period the artificial scab is removed and the wound beneath may be expected to be healed or to be healing.

When the laceration occurs upon the upper surface of the limb there is no difficulty in covering it with powder. When it is placed upon the sides of the extremity a platform of cotton wool must be so fixed in place that the powder, when dusted upon it, will bury the wound. The cotton wool may be kept in position by fixing it in position against the side splints, or by attaching it to the skin by gum.

The following advantages may be claimed for this method: It is simple, and requires but the simplest appliances. The fracture, when once adjusted, need not be again disturbed. The damaged part is kept exposed to view, and the position of the ends of the bone can be ascertained at any moment.—Frederick Treves, F.R.C.S., in *Annals of Surgery*.

PNEUMONECTOMY.

It was briefly stated in the *Brtiish Med. Journal* of February 25, that Dr. Lowson, of Hull, had operated on a case of tuberculous disease of the lung by removing the right apex, to which the disease was limited. We are glad to learn that the patient bore the operation well; and was able to get up for a short time in the third week; she was then eating well and had no pain. The operation was commenced by the removal of the anterior third of the second and third ribs, the parietal layer of the pleura was opend and the apex of the lung was pulled out after separating a number of extensive adhesions; the diseased apex was then transfixed with a needle and strong silk, firmly tied, and removed. The sudden development of pneumothorax gave very little trouble, and oxygen, which was at hand, was not needed. The respirations were never more than 44, and dropped in a day or two to 32, and soon after to 24; the pulse showed a similar elevation and decline. The highest temperature was 101·8°; this occurred in the second week and lasted five or six days with complete morning remissions. The wound was quite healed by the end of the third week. The after-history of this patient will be watched with much interest.—*British Med. Journal.*

TERPENE HYDRATE IN BRONCHIAL CATARRH.

Dr. Wm. Murrell (*Med. Age*) says:

I am desirous once more of calling attention to the value of terpene hydrate in the treatment of affections of the bronchial and nasal mucous membranes. Its properties have been well known for many years, but in this country it has hever been a popular remedy, and its claims seem to have been overlooked in favor of pure terebene and other similar compounds. It is a hydrate of turpentine, and is made by treating oil of turpentine with nitric acid and alcohol. It is a solid, and has somewhat the appearance of chloral hydrate. Its odor, which is slight, resembles that of pure terebene. The great difficulty in the way of its administration is that it is practically insoluble in water. It is usually said to dissolve in alcohol in the proportion of 1 in 10, but many specimens are far less soluble. On the Continent, where it enjoys a high reputation in the treatment of bronchial affections, it is used as a popular remedy in the form of an elixir. For some months past I have prescribed it in a solution containing five grains to the half-ounce, made up with simple elixir and flavored either with tincture of Virginia prune and syrup of tar, or with the aqua laurocerasi. For patients who cannot take sugar the elixir may be made with saccharine. Terpene not only relieves cough and lessens bronchial secretion, but is a diuretic, and has been used with advantage in neuralgia.—*Canada Lancet.*

RESTORATION OF THE FUNCTION OF MICTURITION.

The *British Medical Journal* of March 11th contains a paper on the above subject by Reginald Harrison. He mentions his method of treating enlarged prostate with retention and inflammation. He first punctures the membranous urethra to reach the bladder. The prostate may then be dealt with (1) by dividing the bar; (2) by enucleating a portion; (3) or by stretching. A drainage tube is always introduced and left for two or three weeks. Out of thirty-five cases, ten had the function restored. He adduces other evidence to show that this good result frequently follows prostatotomy and prostatectomy. A combination of ergot, cantharides and nux vomica often seems to assist the return of power, the former especially, when long continued.

In the same journal Buckstone Brown reports the case of a man aged seventy years who had used a catheter for twenty years. He submitted to prostatectomy, and had full natural power of micturition restored.—*Times and Register.*

VITAL STATISTICS.

STATIONS.	Population,	Period.	DEATHS.								Ratio of deaths per mille.	BIRTHS.	Ratio of births per mille.
			Cholera.	Small-Pox.	Measles.	Fevers.	Bowel Complaints.	Injuries and accidents.	Other Causes.	Total.			
Calcutta ...	681,560	Week ending 15th July 1893.	5	...	...	144	37	...	149	335	25·6	...	...
,, ...	,,	22nd ,, ,,	7	1	...	149	48	...	148	353	27·0	...	...
,, ...	...	29th ,, ,,	21	...	...	149	75	...	165	410	31·3	...	...
,,		5th August.	43	2	...	139	77	...	157	418	32·0	...	...
,,		12th ,, ,,	26	...	...	162	74	...	127	389	29·7	...	...
Bombay ...	821,764	11th July ,,	1	3	...	83	40	...	307	434	27·46	...	...
,, ...	,,	18th ,, ,,	3	3	...	93	36	...	285	420	26·57	...	...
,, ...	,,	25th ,, ,,	2	3	...	98	34	...	300	437	27·65	...	...
,, ...	,,	1st August.	4	4	...	112	45	...	287	452	28·60	...	...
,, ...													
Madras ...	452,518	14th July 1893.	...	...	11	103	57	...	154	327	37·5	400	45·9
,, ...	,,	21st ,, ,,	...	...	6	119	82	...	175	382	43·9	384	44·1
,,	,,	28th ,, ,,	1	1	11	113	90	...	156	372	42·7	418	48·0
,,	,,	4th August.	...	...	12	151	78	...	179	420	48·2	389	44·7
,, ...	,,								148				
Delhi ...	...	July 1893.	...	...	...	159	44	6	221	422	...	505	...
Rangoon ...	...	14th July 1893.	2	1	...	16	12	...	65	96	27·68	...	...
,, ...	...	21st ,, ,,	...	1	2	40	19	...	73	135	38·93	...	...
,, ...	...	28th ,, ,,	...	3	...	32	19	...	86	140	40·37	...	...
,, ...		4th August 1893.	...	1	...	44	23	1	76	145	41·81	...	...
Naini Tal ...	...	,, ,,	...	...	...	...	...	...	...	...	...	...	...
					...								
Moradabad ...	72,068	7th August 1893.	2	...	...	26	19	4	13	64	·89	...	...
Bareilley ...	107,785	,, ,,	...	1	...	23	11	1	3	39	·36	...	...
Saharanpore ...	63,194	,, ,,	...	...	...	30	1	...	2	33	·52	...	...
Meerut ...	73,637	,, ,,	...	...	...	29	...	...	...	29	·39	...	...
Agra ...	146,208	,, ,,	....	...	...	70	1	...	23	94	·64	...	...
Sitapur ...	...	,, ,,	...	...	...	...	...	...	...	...	...	...	...
Cawnpore ...	163,779	,, ,,	2	...	...	114	...	1	10	127	·78	...	...
Allahabad ...	162,895	,, ,,	...	...	...	62	...	3	13	78	·49	...	...
Fyzabad ...	72,686	,, ,,	...	...	...	25	5	1	15	46	·63	...	...
Goruckpore ...	64.398	,, ,,	...	...	...	15	1	1	15	32	·50	...	...
Benares ...	210,691	,, ,,	3	2	...	101	3	3	54	166	·79	...	...

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Medical News and Comments.

Indian Medical Celebrities.—Through the kindness of Surgeon-Captain B. D. Basu, I.M.S., we are able to place before our readers the first of a series of biographical sketches with a portrait, which will be found in another part of this Journal. Dr. Basu has been for some time collecting notes and photographs of eminent medical men of this country, both European and Native, one of which will appear monthly. The subject of our next sketch will be the late Dr. Bhandaji, whose work in connection with Leprosy is well known.

It has been practically decided, as a result of Sir Edward Buck's visit to Naini Tal, that the Bacteriological Laboratory is to be stationed at Mukhtessar, a hill between Almora and Naini Tal, at an elevation of about 7,000 feet. It will be connected at a distance of about 20 miles by a road now under construction between the terminus at Kutgodam and Almora with the Bareilly and Kumaon Railway. It possesses all the climatic conditions necessary for the successful cultivation of vaccines. Dr. Lingard is now engaged at Poona in the publication of his first report on "Sura," a work which is expected to be of much interest to the veterinary world. He will shortly proceed to Naini Tal to arrange the plan of the new building with the Public Works Department.

The Advance of Vaccination.—According to the *Times of India*, the vaccination percentage of the Bombay Presidency still maintains the rate of increase which set in a few years ago, and the new Report shows a percentage as high as 80·12 as against 76·58 for last year. The registered birth-rate, however, showed a considerable decline and the death-rate nearly as large an increase; so that the number of children available for vaccination fell to a little over half a million, of which number 423,486 were successfully vaccinated. The total number of persons operated on including children, was little under one hundred thousand, of which total 92·29 per cent, are returned as successful cases, a very fair percentage indeed.

Medical Degree Examinations.—G S David and G Asirvadum Pillay, Native Christains, of Bangalore, have passed the First L.M.S., and the Preliminary Scientific Examinations in Madras. We learn that these are the first passes of Native Christians of Bangalore in those degrees. The first-named is a son of Mr. David, Evangelist of the London Mission, and the second is the son of Mr. Gnanayadum Pillay, Senior Hospital Assistant, Followers' Hospital.

We note that Messrs. Caine and Arthur Pease, are to be appointed Members of the proposed Opium Commission. They will represent the extreme anti-opiumists on the Commission, and Sir J. Kennaway will probably represent the moderates. It is believed that the Dewan of Junaghur will also be a member of the Opium Commission.

The Opium Commission.—It is expected that the Opium Commission will arrive in India early in November, and remain through the whole of the cold weather, if not longer. Half of the Commission with Lord Brassey at their head will work in London, and the other half will come out to India under the presidency of Sir James Lyall.

An Infallible Remedy for Scorpion Sting.—Dr. R. P. Bannerjee, of the Pachbadra Salt Works, says he has discovered "an infallible remedy" for scorpion sting. It is described by him as follows:—Take chloral hydrate, two parts by weight, and comphor one part, add these together in a well secured stoppered bottle. They soon liquify themselves, and are ready for use then. To within four inches of the sting, it may be on any part of the body, make a single puncture with a pin or needle, and see that such punctures give out a drop of blood readily; wipe off the blood and apply a drop or two of the remedy. The effects are instantaneous, the pain goes off there and then, and no subsequent swelling appears, no other complaints are left behind. This combination may be used for stings of bees, wasps, hornets and other poisonous insects. A diluted solution, one part of the remedy with 600 parts of cold water, may be used for the irritation caused by musquito and flea bites. One or two drops of this combination liquid will stop severe tooth-ache instantly if put into the cavity of the painful tooth or about it.

The Army Hospital Corps.—The following changes in the organization of the Army Hospital Native Corps in India having been proposed by the Principal Medical Officer, Her Majesty's Forces in India, and recommended by the Commander-in-Chief, have been adopted by the Government of India:—(1). To expunge the word "Native" from the designation of the Corps. The Corps will now be named the "Army Hospital Corps" (2). To substitute the term "Company" for "detachments" in denoting the distribution of the Corps. (3). The distribution of the Corps to be made by Military Districts instead of by Administrative Medical Charges, as is done in the case of all other Medical Establishments. (4). To change the designation of "sweeper" to "ward sweeper" to distinguish them from conservancy sweepers. (5). In order to prevent men of doubtful character from enlisting, it is proposed that every recruit should be considered as on probation for the first two months, receiving the lowest rate of pay of his class with compensation for dearness of provisions and batta as at present, that if at the end of that period he is likely to prove a useful attendant, and his verification roll shows that he bears a good chatacter, he should be regularly attested, receiving all the advantages of a hospital attendant from that date; otherwise, he should be discharged. (6). To abolish the "Corps badge," which interferes with the wearing of war medals on the left breast, and to substitute a waist plate of departmental pattern, showing the Corps design for the snake-hook fastening on the brown-leather belt. The cost of his waist-plate to be met from the half-mounting allowance:—*C. and M. Gazette.*

Dr. D. D. Cunningham has been nominated by Government to represent India at the Medical Conference at Rome. The Conference was to have opened on the 24th September next, but has been postponed owing to the prevalence of cholera in Southern Italy.

Zenana Hospital at Midnapore.—Kumar Narendra Lal Khan, Midnapore, has given a sum of Rs. 30,000, in perpetuation of the memory of his father, towards the endowment of a zenana hospital at Midnapore, and has offered, in addition to this amount, a sum of Rs. 10,000 for the construction of the building for the proposed hospital. The offer has been accepted by the Lieutenant Governor, who thanks the Kumar for his liberality.

Medical Examinations.—The following are the results of First L. M. S. and Preliminary Examination. First L. M. S., Second Class.—Annie Austin, Henry St Charles Daily, Genanamani Samson David, Edith Isabella Hudson, Mysore, Jaganatham Pillay, P. N. V. Mahadava Menon, Terusurara J. Manavalaiya, Andrew Avolino Manuel, K. Thomas Matthen, Viraraghava Mutuswamy Duss, Nina Eleaner Ottman, Lawrence Walter Pereira, and Francis Peter Vieyra, The Preliminary Scientific Examinntion —Gnanazadam Asirvadam Pillay, Alfred Spittler, and Percy Faraday Tho Be.

The cinchona plantations in Southern India appear to have suffered much from unfavourable weather last year; but even under these conditions the yield of bark was very large, the crop harvested being 106,331lbs, of "brown" and 13,145lbs. of "red" bark. The quantity disposed off during the year of all the varieties of bark was 173,992lbs. Of this, 171,717lbs. was utilised for the manufacture of sulphate of quinine and solid febrifuge, the remainder being supplied to the Madras, Bombay, and Mysore Medical Departments, to the Imperial Institute, and to private parties. It is noticeable that the last named do not apparently appreciate the drugs manufactured from the bark at their proper value, as they only purchased 32lbs of quinine, and 8lbs of febrifuge during the year. The Government of Madras observes with satisfaction that there was a very material increase in the number of indents received from the several Collectors for quinine packets, the number of powders sent out during the year under review having been 170,400, as against 37,000 in the previous year. The receipts during the year, excluding the cost of quinine packets supplied to Collectors for distribution, amounted to Rs. 72,798; the expenditure of the department to Rs. 78,886.

The following is a translation of the Report of Dr. Chaffy, the Egyptain delegate to the Hedjaz addressed to the President of the Sanitary Council in Alexandria:—Jeddah, July 2nd 1893.—I remained at Jeddah two days, three days after which I went to Mecca, and proceeded immediately to make an inspection of the town and hospitals. The private houses and tents were full of persons attacked by cholera. I then gave you by telegraph the numbers of deaths officially stated, but it must be remembered that in consequence of the immense mortality, the figures cannot be exactly known, and that they are certainly double, perhaps much more than double the official figures. At Monna it has been impossible to bury all the dead, who were piled up in different places, and in the neighbourhood of the Syrin Mahmal were also found a quantity of bodies unburied. Returning from Monna to Mecca the route was strewn with corpses. In the interior of the town of Mecca the bodies were lying in a state of putrefaction, and when it was decided to carry them to the cemetery they were left there two or three days unburied owing to the absence of a sufficient number of grave diggers." A correspondent writes to the *Times* that, the officially reported deaths at Mecca up to the 2nd of July are 6,721, that the population of Mecca is 60,000, and the estimated number of pilgrims 135,000. In view of the above statement it is not too much to say that the actual mortality among pilgrims amounts to at least 10 per cent.

Sub-Medical Department.—Among those Military pupils who have been admitted into the Service as Assistant Apothecaries, are Messrs. J. D. Rodriguez and Corlos. Both these young men have also passed the 2nd L. M. & S., Examination.

Surgeon-Colonel R. Harvey, Principal Medical Officer, Punjab Frontier Force, will probably attend the International Medical Congress at Rome, and read a paper concerning India. Cholera will, we believe, be the subject selected, and the profession may well leave it in his hands with confidence.

It is roumoured that the Government contemplate establishing a depot for British troops at Bhowali, near the Government cart-road in Kumaon. The water is said to be the very best in the hills, and fuel is abundant and close at hand. A river runs for a considerable distance quite close to the road. The climate is much milder than at Naini Tal; there are no fogs and a mild bracing air. The place is most conveniently situated for British or Native troops, and there is any amount of fodder and pasturage for cattle. There are several beautiful flat tracts of country on which a regiment or two could encamp.

The Medical College and Hospital.—Dr. Sanders, who we are glad to hear has improved in health has obtained leave on medical certificate. Dr. F. S. Peck, Civil Surgeon of Mozufferpore, has been appointed to act as Ophthalmic Surgeon of the Medical College Hospital, and Professor of Ophthalmic Surgery in the Medical College. Dr. A. W. T. Buist-Sparks has also been appointed to the same establishment. He will act as Resident Physician of the Hospital and Professor of Pathology in the College.

The investigations of the Opium Commission will chiefly concern the following points:—1. Whether the growth of the poppy and manufacture and sale of opium in British India should be prohibited except for medical purposes, and whether such prohibition could be extended to the Native States. 2. The nature of the existing arrangements with the Native States in respect to the transit of opium through British territorry, and on what terms, if any, these arrangements could, with justice, be terminated. 3. The effect on the finances of India of the prohibition of the sale and export of opium taking into consideration (*a*) the amout af compensation payable; (*b*) the cost of the necessary preventive measures; (*c*) the cost of revenue. 4. Whether any change short of total prohibition should be made in the system at present followed for regulating and restricting the opium traffic and for raising a revenue therefrom. 5. The consumption of opium by the different races and in the different districts of India, and the effect of such consumption on the moral and physical condition of the people, 6. The disposition of the people of India in regard to (*a*) the use of opium for non-medical purposes; (*b*) their willingness to bear in whole or in part the cost of prohibitive measures.

A New Medical Missionary.—Dr. C. F. Ponder, formerly a tea-planter in the Dooars, went home six years ago to Edinburgh to study Medicine. He has returned to Darjeeling on his way to Kalimpong, where he has been appointed a Medical Missionary in the Church of Scotland Young Men's Guild Mission.

Brigade-Surgeon-Lieutenant-Colonel J. C. G. Carmichael 1-3rd Gurkhas, officiates as Principal Medical Officer of the Bundelkhand and Nerbudda Districts.

Cases for the Pasteur Institute.—Two privates and a barber of the Royal Dublin Fusiliers, who where recently bitten by a mad dog at Quetta, are being despatched, at the expense of Government, to Paris for treatment at the Pasteur Institute.

At the annual meeting of the National Society for the Prevention of cruelty to Children, on May 8, a resolution was passed declaring that the power to pledge children's clothes caused great suffering, and that the law ought to be amended.

An English surgeon has been appointed to teach surgery to students of the Madrassa Tibba (School of Greek Medicine) at Delhi.

HOSPITAL ASSISTANT SCHOLARSHIPS FOR BURMAH.

The annual award of five Hospital Assistant Scholarships will be made shortly.

Candidates for these scholarships should apply in person to the Civil Surgeon of the district in which they are resident, not later than the 10th August 1893.

Selected candidates will be required to attend any hospital in the province for one year from the 1st September 1893, in order to complete their pre-collegiate course before being sent to Madras.

Before a candidate nominated for one of these scholarships proceeds to Madras; his parent, guardian, or a friend (not being himself a minor) will be required to enter into a bond with this department, guaranteeing that the candidate shall duly attend and complete the full course of his instruction at the said college as prescribed by the rules; and that he shall at the end of his course execute, if required to enter Government empolyment, such form of agreement for Hospital Assistants as may from time to time be prescribed by the Government of India.

Medical Relief in Bengal.—At the close of 1891, there were 272 dispensaries open in Bengal exclusive of Calcutta. There were 35, 859 in-door patients and 1,469,195 out-door patients treated. During that year 228,555 women were treated in Dispensaries, and 383,890 children. As against the Rs. 12,000 contributed by Municipalities in 1871-72 we see Rs. 1, 73,858 contributed in 1891, and Rs. 89, 377 contributed from District and other Local Funds. In 1891, moreover, a great start was made in building and opening hospitals solely for the treatment of women.

Local Governments, at the request of the Government of India, are now, we learn, considering a Draft Vivisection Bill for India, to make further provision for the prevention of cruelty to animals, which, for medical, physiological, or other scientific purposes are subjected, when alive, to experiments calculated to inflict pain.

As an instance of the panic and consequent despair that prevailed amongst the hill people in the North-West Provinces during the recent outbreak of cholera, the Commissioner of Kumaon tells of a family consisting of eight men, seven women and six children, who were driven from their home by fear of the disease and wandered from village to village seeking shelter. In each case they were refused admission by their terrified relatives, until in despair after seven of them, including the head of the family, had died of cholera, the remainder returned to their own home, where they set fire to the house, and all perished in the flames.

Returning Pilgrims from Pooree.—Thousands of pilgrims have been arriving in Calcutta from Pooree. They were conducted in *dinghies* from the steamer to the Howrah station jetty, and were despatched within half an hour by special trains to their homes along the line of railway. Several pilgrims have from day to day been sent to the Howrah hospital from the railway station, suffering from cholera, and the death-rate among these has been heavy. The local police authorities are to be congratulated upon the arrangements which they have insisted upon to keep the returning pilgrims out of Calcutta.

Medical Certificate.—In a case in the Chief Presidency Magistrate's Court, Calcutta, on the 9th of last month, the accused did not put in an appearance, but sent in a certificate signed by some one who termed himself a "medical practitioner." The complainant in the case said, she had seen the accused in the Kiderpore Bazaar buying fish on the previous day. Mr. Marsden very rightly said he could not accept such a certificate. He would, however, adjourn the case for a day, in order to enable the accused to put in a certificate signed by a duly qualified medical man.

Cutchra Burning in Bombay.—The difficulties of burning Indian "cutchra" have hitherto appeared almost insurmountable, owing we belive, to the fact that the quantity of combustible matter, as compared with the moisture in it, has not been duly appreciated. Furnaces upon English models have been introduced more or less modified, but up to the present without any apparent success. This is due no doubt, in a large measure to the very great difference between the materials to be dealt with, as the rubbish in England contains a very much larger percentage of combustible material, whilst it is of such a nature that it does not hold the same amount of moisture, as Indian "cutchra." It follows, therefore, that the relation of the combustible mater to the moisture contained in the rubbish is at a much greater advantage n England than in India, and hence the reason why furnaces constructed on the English model are more or less failures when working in this country. Messrs Garlick and Christiansen, who have had considerable experience in Indian "cutchra," and who have devoted a large amount of energy and thought to the subject, have completed three experimental furnaces for the Bombay Municipality, which appear to have all the elements of success. One of the main features in these furnaces is the application of heated blast for the purpose of drying the "cutchra." This accomplishes its object and renders the "cutchra" fit for combustion without, as in other furnaces, drawing upon the heat of the furnace itself. Another feature in these furnaces is that all the gases given off during the drying of the "cutchra" are made to pass over the most intense part of the fire, and are there thoroughly burnt and rendered inocuous, so that as far as it is possible to obtain it in any furnace, complete combustion takes place. Heated gases are utilised in what is called a blast heater for heating up the air supplied to the furnace for the purposes of drying and combustion. The furnaces in question have been built at the rear of the municipal work-shops, and the cutchra-burning will, we understand, be begun in the course of the present week.—*Times of India.*

In a letter from the Secretary to the Indian Hemp Drugs Commission to the Government of Bengal, Mr. MacIntosh states that, the Commission are anxious to receive evidence from any well informed persons who desire to see the preparation and sale of ganja or other hemp drugs further restricted or entirely prohibited. Philanthropic, religious, or social bodies are invited to send in written statements of their views to the Secretary of the Commission. But the enquiry will be supplemented wherever possible by oral examination. With regard to other classes of witnesses, the Commission desire to obtain due representation of opinion under the following five heads—cultivation, manufacture, trade, consumption, and effects. The Commission, we may add will defray the actual expenses of non-official witnesses if this be desired.

A report on the outbreak of cholera in the Punjab this year has been prepared for the information of Government, showing that though all the outbreaks of cholera are not attributable to the Hardwar Fair, many undoubtedly are so, and it is believed that the chief methods of transmission is in water and sweetmeats brought back by pilgrims from Hardwar, for the purpose of a religious ceremony after their return. The essence of this ceremony appears to be the sanctifying of the local water supply by placing Ganges water and sweetmeats in it, thus, under favourable circumstances for the multiplication of the microbe, doing every thing possible to ensure a widespread epidemic. Some outbreaks of the present year, such as that at Mian Mir and Maisian in the Jullundur district, have, however, no apparent connection with Hardwar, but in

both cases a number of persons were simultaneously seized with illness and there were no subsequent cases.

THE NEW ZANANA MISSION HOSPITAL AT PATNA.

Laying the Foundation-Stone.—During the present tour of the Lieutenant-Governor of Bengal, His Honor has got through a good many public functions, among which not the least gratifying must have been the laying of the foundation-stone of the new Medical Mission Hospital at Patna. For a considerable period the Medical Mission at Patna has been under the superintendence and active management of Dr. Grace McKinnon, a lady who was for some time connected with the sister institution at Lucknow, where her memory is still fragrant and green among all those who appreciate heart-whole and undivided service in the cause of the poor and the wretched, the sick and the afflicted. At Patna this lady has done excellent work, and Dr. McKinnon is to be congratulated upon the high and useful position the Medical Mission has attained to under her administration, culminating in the ceremonial over which His Honor the Lieutenant-Governor of Bengal presided on the 30th July last.

Our esteemed contemporary of *The Indian Daily News* says: If there is any truth in the statement that the completion of the Opium Commission is delayed, owing to the anti-opiumists demanding three seats on it, instead of two, it may reasonably be predicted that, the result of the Commission will be a *fiasco*. It would be hopeless to look for a unanimous report from a body composed, not of impartial enquirers, but of men representing such radically opposite views as those of the opiumists and the anti-opiumists. If this is the arrangement, the outcome of the enquiry will be a series of separate minutes which add little or nothing to previous knowledge on the subject, and the only effect of which will be to emphasize existing differences of opinion. Perhaps this is the best thing could happen, as it would leave the Government a free hand. But it is rather hard that India should be called upon to pay for a mere exhibition of dialectical skill.

A Successful Hindoo Lady Doctor.—Mrs. Kadambini Ganguli, who was one of the first lady graduates of an Indian University, has secured the triple qualification—L.R.C.P., and L.R.C.S., of Edinburgh, and L.F.P.S., of Glasgow.

The Campbell Medical School.—Brigade-Surgeon S. C. Mackenzie, Superintendent of the Campbell Medical School and Hospital at Sealdah, is allowed furlough in India, on medical certificate, for one year. Surgeon-Captain J. B. Gibbons, from the Medical College Hospital, acts for him.

The undermentioned Native Military pupils having passed their final examination are admitted into the service as Sub-Hospital Assistants with effect from 16th June 1893:—781 Muhammad Yusuf, and 782 Muhammad Abdul Hakim.

The Ganja Commission have assembled at Calcutta and arranged the programme of their tour, which will comprise a visit to all the Provinces in the country. The outcome of the investigation is sure to be interesting and economically instructive; whether it will altogether satisfy Mr. Caine is quite another matter.

Dr. Jenkins, Medical Officer, Malair Kotla State, has it is stated been retired from the service of the State, with a gratuity of one month's pay for every completed year of service in the State.

Colonial Emigration.—The sailing ship *Rhone*, Captain G. Guthrie, left this port for Trinidad, on August 9th, with over six hundred emigrants, in medical charge of Dr. Lenny.

Dr. Kenneth McLeod.—As we anticipated in our last issue, we are now glad to be able to state that Dr. Kenneth McLeod, late of the Calcutta Medical College, has been appointed a member on the India Office Medical Board. We are sure this will give universal satisfaction, and we have no doubt that, all those in India who were acquainted with Dr. McLeod, will join us in heartily congratulating him.

The Secretary of State has sanctioned the proposal of the Government of India to compensate officials for the loss in exchange. The relief takes the form of an addition to pay, which will make it equivalent to one and six pence, and will apply to half the salary up to the limit of one thousand pounds. These terms are to apply to all servants of Government not domiciled in India.

LIST OF MEMBERS OF THE BURMA BRANCH OF THE BRITISH MEDICAL ASSOCIATION UP TO 31st MAY 1893.

Backhouse, J., F. R. C. S. I., Brig-Surg-Lt. Col. I. M. S.
Baker, O., L.R.C.P. and L.R.C.S. Ed. Surg-Lt.-Col. I. M. S.
Bell, J.G.H., M.B.C.M. Ed. Surg-Capt. I. M. S.
Blancard, M. J. T. J., L.R.C.P., M.R.C.S. Surg-Capt. I. M. S.
Britto, C. F., L.R.C.P. and S. Ed. L.F.P.S.
Castor, R. H., L.R.C.P., M.B.C.M., Surg-Capt. I. M. S.
Connor, J. C., M.B., BCH., Surg-Major I. M. S.
Dantra, S. H., M.D. Abd, D.P.H., Surg-Major I. M. S.
Darwin, T. R., L.R.C.P., L.R.C.S.
Davis, R. E. S., M.B., BCH., D.S.M., Surg-Capt. I. M. S.
DeSouza, E. M., M.B.C.M. Abd.
Dey, B. C., M.B. Calcutta University.
Evans, A. O., L.R.C.P., M.R.C.S., Surg-Capt. I. M. S.
Fearnside, C. F., M.D., Surg-Capt. I. M. S.
Findlay, H., M.B.C.M., M R.C.S., D.P.H.
Frenchman, E. P., L.R.C.P. and S. Ed., Surg-Major I. M. S.
Godber, W. E. M.B.C.M. Ed.
Hollingsworth, R. A., L.R.C.P. and L.R C.S.
Hunt, S. B., L.R,C.P., L.R.C.S., Surg-Col.
Hunter, J., M.B.C.M., T.C.D.
Johnstone, H., M.A.,M.D. Abd., Surg-Lt. Col. I. M. S.
Johnston, W. T., M.D. Surg-Major.
Leslie J. T. W., M.B.C.M., Abd., Surg-Capt. I. M. S.
Martin, C., L.R.C.P., and S., L. F.P.S.G.
Mayne, T., L.S.A., M.R.C.S., Surg-Lt. Col. I. M. S.
Molesworth, W., M.B.B.S., L.R.C.P., Surg-Capt.
Mookerji, U. N., M. B. C. M., Ed. Surg-Capt.
Naylor, C. G. R., L.R.C.P., and S., M.R.C.S.
Parakh, N.N., L.S.A., L.F.P. and S.G.
Pedley, T. F., M.D., Brux. L.S.A., M.R.C.S.
Robinson, G.W., L.R.C.P., and M.R.C.S., Surg-Major M. S.
Roy, M. N., L.M.S.
Russel, A. R. P., M.B.C.M., Ed. Surg-Capt.
Selick, J. H., M.B., M.R.C.S., Surg-Capt. I. M. S.
Sibthorpe, C., F.R.C.P., L.R.C.S.I., Surg-Col. I. M. S.
Sinclair, D., M.B.C.M., Surg-Lt. Col. I. M. S.
Stewart, J. W., L.R.C.P., L.F.P.S., Surg-Capt. I. M. S.
Strachan, J. M., M.D., D.D.
Sutherland, W. H., M.B. and C.M.
Vickers, W. C., M.B.C.M., Ed. Surg-Capt. I.M.S.
Watts, V. L., L.R.C.S.I., L.M., L.A.H.D.
Wight, E. O., L.R.C.P., M.R.C.S., Surg-Capt. M. S.
Williams, C.L., M.D., M.R.C.S., Surg-Capt. I. M. S.
Woods, C., M.D., Surg-Capt. M. S.

Correspondence.

THE SNAKES OF INDIA.

To The Editor, "The Medical Reporter."

Sir,—The series of articles on Ophiology now appearing in the *Reporter*, are so interesting that, I hope Dr. Banerjee will completely revise and publish them in book form. The value of the book, in my opinion, will be further enhanced if it be illustrated with engravings of the poisonous, as well as other important snakes of the country. The illustrations in Fayrer's Thanatophedia, and Ewart's Poisonous Snakes of India, although magnificent, are beyond the reach of nine-tenths of the members of the profession. A work like Dr. Banerjee's will supply a long felt *desideratum* in the medical literature of the country, and no doubt will be fully appreciated by the medical as well as the lay public of India.

Ahmedabad, Yours faithfully,
1st September, 1893. B. D. Basu,
Surgeon-Captain, I.M.S.

[Dr. Banerjee intends reprinting his papers on Ophiology collectively, when the series of articles which are now appearing in this Journal are completed. Ed., *M. R.*]

THE TREATMENT OF ERYSIPELAS.

To The Editor "The Medical Reporter."

Sir,—In the August issue of your paper, Assistant-Surgeon Banerjee of Benares has made some remarks about the treatment of *Erysipelas*, and it would not be out of place, I am sure, to place my experience before your readers. During the harvest season, cultivators of disputed lands pick up quarrels with one another and strike the most deadly blows. These cases are sent by the Police for treatment to the local Dispensary. The head being the highest and most prominent part of the body receives the first blow, and thus head injuries comprise the largest proportion of all wounds. I had to treat a number of cases of Erysipelas of the head and face, resulting from such wounds. The treatment which I followed invariably was to paint the parts affected, with tinct ferri perchloridi and glycerine, in equal parts, and then covered over with cotton wool and thoroughly bandaged over. Internally I gave tinct of steel with quinine. The swelling subsided after two or three dressings. The application of ferri sulph lotion is in no way comfortable to patients, and moreover, the tissues being of low vitality had better be protected from external air by some covering. The lotion may with advantage be applied over other parts of the body if so affected.

Ranchi, Yours faithfully,
14th August, 1893. Naresh Chandra Mitra, M.B., M.A.

Government Medical Notifications.

GAZETTE OF INDIA.

No. 1298-G.—Brigade-Surgeon - Lieutenant - Colonel T. French-Mullen, M.D., Indian Medical Service (Bengal), Civil Surgeon of Bikanir, is appointed to hold temporary charge of the current duties of the office of Political Agent in Bikanir, in addition to his other duties, with effect from the date of assuming charge, and during the absence on privilege leave of Mr. C. S. Bayley, or until further orders.

No. 1304-G.—Surgeon-Lieutenant-Colonel A. S. G. Jayakar, Indian Medical Service (Bombay), Agency Surgeon at Muscat, is appointed to hold charge of the current duties of the office of Political Agent at Muscat, in addition to his other duties, with effect from the date of assuming charge and during the absence on privilege leave of Major J. H. Sadler, or until further orders.

No. 743.—The undermentioned officers are granted leave out of India under article 689, Army Regulations, India, volume I, part I :

Surgeon-Colonel C. P. Costello, Principal Medical Officer and Sanitary Commissioner, Assam, (p. a.) for three months.

Surgeon-Colonel J. Richardson, M.B., Inspector-General of Civil Hospitals, North-Western Provinces and Oudh, (p. a.) for eight months.

No. 753.—It is notified that, on the recommendation of the Government of India, Her Majesty's Government have been pleased to confer a good-service pension on the undermentioned officer, with effect from the date specified :

In place of Surgeon-Major-General J. Pinkertion, M.D., Indian Medical Service, Bombay, retired with the special additional pension of £350. Dated 26th February 1893.

Surgeon-Major-General Peter Stephenson Turnbull, M.D., Indian Medical Service, Bombay.

Surgeon-Lieutenant-Colonel R. T. Wright, Civil Surgeon, Sháhjahánpur, privilege leave for one month, with effect from the 1st September 1893.

Assistant Surgeon Lalta Prasád, attached to the Bijnor Sadar Dispensary, to hold charge of the civil medical duties of the Bijnor district, in addition to his own duties, during the absence on leave of Surgeon-Captain G. H. Fink, or until further orders.

Assistant Surgeon Tarak Nath Ghose, attached to the Sadar Dispensary, to hold charge of the civil medical duties of the Sháhjahánpur district during the absence on leave of Surgeon-Lieutenant-Colonel R. T. Wright, or until further orders.

No. 2867-G.—Hospital Assistants Hafeez Karim Ahmad and Raja Ram Singh have been appointed third class Hospital Assistants for Government service and placed on the Native States Reserve List, from the 27th May and 13th June, 1893, respectively.

No. 2868-G.—Third class Hospital Assistant Mahomed Ally Khan returned, on the forenoon of the 10th July, 1893, from the leave granted him in this Office Notification No. 1803-G., dated 25th May 1893.

No. 2869-G.—Third class Hospital Assistant Nehal Singh, of the Native States Reserve List, was granted one month and seventeen days' privilege leave from the forenoon of the 11th April, 1893, to the forenoon of 28th May, 1893.

No. 2870-G.—Third class Hospital Assistant Nazeer Khan, attached to the Branch Dispensary at Ramsar in the Ajmere District, was granted privilege leave for one month and fifteen days from the 12th May to the 27th June, 1893, and third class Hospital Assistant Abdus Samad was appointed to officiate for him during his absence.

No. 2871-G.—Third class Hospital Assistant Abdus Samad, of the Native States Reserve List, was granted privilege leave for three months from the forenoon of the 2nd July, 1893,

No. 2872-G.—Third class Hospital Assistant Nund Kishore, in charge of the Ratangarh Dispensary in the Bikanir State, availed himself of two months' privilege leave from the forenoon of the 4th July, 1893.

No. 2873-G.—Medical Pupils Shib Lall and Toyan Lall, of the Agra Medical School, passed their final examinations on the 1st May, 1893, from which date they were appointed as third class Hospital Assistants for Government service. The former was placed on the Native States Reserve List, and the latter on the Government Reserve List on the same date.

No. 2874-G.—Third class Hospital Assistants Shib Lall and Toyan Lall availed themselves of privilege leave for two months from the 1st May to the 30th June, 1893.

No. 2875-G.—The following transfers have been made in the establishment of Civil Hospital Assistants in Rajputana:—

Class	Name.	From	To	Date of Transfer.
3rd	NageshKeshev Kelker	Abu Charitable Dispensary	Shahpur Raj Dispensary	28th June, 1893.
1st	Emamuddin.	Nothern India Salt Revenue Dispensary, Didwana.	Abu Charitable Dispensary	11th July, 1893.
2nd	Sukhnundun.	Pertabgarh Dispensary.	Native States Reverve List	1st July, 1893.
3rd	Nehal Singh.	Native States Reserve List	Pertabgarh Dipensary	1st July, 1893.

No. 2876-G.—First Class Hospital Assistant Emamuddin returned on the 10th July, 1893, from the leave granted him in this office Notification No. 1806-G., dated 25th May, 1893. The unexpired portion of his leave is hereby cancelled.

Surgeon-Captain W. Vost Civil Surgeon, Bahraich, to hold visiting medical charge of the Gonda district, in addition to his own duties, during the absence on leave of Surgeon-Captain J. J. Pratt, or until further orders.

No. 485.—The services of the undermentioned Medical Officers, I. M. S. (Bengal), which were placed temporarily at the disposal of the Government of the North-Western Provinces and Oudh by the Notification in the Home Department marginally noted, are placed permanently at the disposal of that Government:

No. 550, dated 25th August 1890.
No. 768, dated 1st December 1890.

Surgeon-Captain G. H. Baker.

Surgeon-Captain A. E. Roberts, M.B.

No. 2901-G.—Senior Hospital Assistant No. 88, Muhammad Fakir, returned on the 20th July, 1893, from the leave granted him in this office Notification No. 1853-G., dated 30th May, 1893.

No. 814—373,—Surgeon-Major D. ffrench-Mullen, M. D., I. M. S. (Bengal) Civil Surgeon, Ajmere, and in medical charge of the Merwara Battalion, is granted privilege leave for three months, with effect from the 26th ultimo.

N. W. P. GAZETTE.

Surgeon-Captain G. H. Fink Civil Surgeon, Bijnor, privilege leave for six weeks, with effect from the 1st September 1893.

Surgeon-Major W. Deane, Civil Surgeon, Moradabad, to hold visiting medical charge of the Bijnor district, in addition to his own duties, during the absence on leave of Surgeon-Captain G. H. Fink, or until further orders

Surgeon-Catain J. S. S. Lumsden, M. B., I. M. S., to the civil medical charge of the Almora district, in addition to his military duties, with effect from the 21st July 1893.

In supersession of Notification No.—2071 11—687B, dated the 18th July 1893, Assistant Surgeon Trishita Nath Sinha, on reserve duty at Bahraich, to the charge of the sadar Dispensary, Bara Banki, during the absence on leave of Assistant Surgeon Hari Gopal Chatarji, or until further orders.

Assistant Surgeon Annada Prasád Datta, whose services have been Placed at the disposal of this Government by the Government of Bengal, to the charge of the Etah Sadar Dispensary.

Assistant Surgeon Hari Dat Pant, in charge of the Gonda Sadar Dispensary, to hold charge of the civil medical duties of the Gonda district in addition to his own duties, during the absence on leave of Surgeon-Captain J. J. Pratt, or until further orders.

Surgeon-Colonel J. Richardson, M.B., Inspector-General of Civil Hospitals, North-Western Provinces and Oudh, (p. a.) for eight months.

No. 238Med.—The services of Assistant Surgeon Annoda Prasad Dutt, of the Bengal Provincial Establishment, are placed at the disposal of the Government of the North-Western Provinces, with effect from the date on which he reported himself to the Inspector-General of Civil Hospitals of the provinces.

The under-mentioned 3rd grade Assistant Surgeons of the Provincial Staff of these Provinces are placed on reserve duty at Lucknow, with effect from the dates noted against their names:—

Rashid-ud-din, 31st July 1893.

Ghulam Mustafa, 1st August 1893.

Shankar Das, 2nd August 1893.

Hospital Assistant Lachhman Prasad held charge of the Farukhabad Sadar Dispensary from the first May to the 15th July 1893, both days inclusive.

Mr. Senior Apothecary T. P. Bond, in civil medical charge of Sultanpur, to Partábgarh in the same capacity.

No.495.—The services of the under-mentioned Medical Officers, I. M. S. (Bengal), which were placed temporarily at the disposal of the Government of the North-Western Provinces and Oudh by the Notifications in the Home Department marginally noted, are placed permanently at the disposal of that Government:—

No. 550, dated 25th August 1893.
No. 768, dated 1st December 1893.

Surgeon-Captain G. H. Baker.

Surgeon-Captain A. E, Roberts, M. B.

Surgeon-Major A. J. Willcocks, late Oficiating Professor of Midwifery, Medical College, and Obstetric Physician, Eden Hospital, Calcutta, is allowed furlough on medical certificate in India for two days in extension of that sanctioned in Government Notification No, 536 T. M., dated 24th June 1893.

C. P. GAZETTE.

No. 64.—Third Class Civil Hospital Assistant Chandra Bhan, doing duty under the orders of the Civil Surgeon Nagpur, is directed to do duty under the orders of the Civil Surgeon, Saugor.

No. 5962.—The undermentioned medical pupils of the Temple Medical School, Patna, having been reported by the Principal of that institution as qualified, are promoted to the grade of 3rd Class Civil Hospital Assistant to fill existing vacancies, with effect from the date entered against their names:—

Name.	Date of rank.	Ordered to duty at
Ganesh Sitaram ...	1st July 1893.	Nagpur.
Mohan Lall ...		
Pandurang Laxman ...		

No. 65.—Third Class Civil Hospital Assistant Kunj Behari Lall, doing duty under the orders of the Civil Surgeon, Nagpur, is directed to do duty under the orders of the Civil Surgeon, Wardha, at the Sindi Branch Dispensary, until further orders.

No. 66.—On being relieved by Civil Hospital Assistant Shaikh Mohiddin, on return from leave, 2nd Class Civil Hospital Assistant Nanak Pershad, temporarily attached to the

Brahmapuri Branch Dispensary, Chanda District, is directed to do duty under the orders of the Civil Surgeon, Nagpur.

No. 67.—One month's privilege leave is granted to 3rd Class Civil Hospital Assistant Ganpat Shri Hari, doing duty under the orders of the Civil Surgeon, Nagpur, from the date he is permitted to avail himself of it.

No. 68.—Third Class Civil Hospital Assistant Rama Gadi, doing duty under the orders of the Civil Surgeon, Nagpur, is directed to do duty at the Umrer Branch Dispensary, Nagpur District, until further orders.

No. 69.—On being relieved by Civil Hospital Assistant Bashiruddin, on return from leave, 3rd Class Civil Hospital Assistant Kalilur-Rahman, temporarily attached to the Main Dispensary, Chhindwara, is directed to do duty under the orders of the Civil Surgeon, Chhindwara, until further orders.

THE ASSAM GAZETTE.

No. 126.—Privilege leave of absence for three months, under article 291 of the Civil Service Regulation, is granted to Third-Grade Hospital Assistant Upendra Chandra Chatterji, in temporary medical charge of the Wokha Dispensary in the Naga Hills district, with effect from the date on which he may be relieved of his duties.

No. 127,—Third-Grade Hospital Assistant Nabin chandra Das, in temporary medical charge of the Baniachang Dispensary in the Sylhet district, is, on relief, appointed temporarily to the medical charge of the Shella Dispensary in the Khasi and Jaintia Hills district during the absence on privilege leave of Third-Grade Hospital Assistant Raj Mohan Ganguli, or until further orders.

No. 128.—The probationary period for Third-Grade Hospital Assistant Bir Chandra Sen is extended for another six months with effect from the 19th May 1893.

No. 129.—Third-grade Hospital Assistant Bir Chandra Sen, in temporary medical charge of the Roha Dispensary in the Nowgong district, is, on relief, posted for duty as a Supernumerary at Sibsagar.

G. O. C. C.

666. The undermentioned passed the lower standard examination in Pushtu on the 5th July 1893:—

Surgeon-Major. S, T.Avetoom	Indian Medical Service.	
Surgeon-Lieut. B. G. Seton	Ditto	Ditto.
1st grade Apothy. G. F. Fox.	Sub.-Medical	Department.
2nd Grade Asst. Apothy. W. R. Durham	Sub.-Medical	Department.
Sub-Asst. Apothy. R. T. Rogers.	Sub.-Medical	Department.

671. Apothecary A Gates is granted six month's leave on private affairs, under the Furlough Rules of 1868.

636. Brigade-Surgeon-Lieutenant-Colonel J. C. G. Carmichael, 1st Battalion, 3rd Gurkha Rifles, in anticipation of promotiou to the temporary rank of Surgeon Colonel, is appointed to officiate as principal Medical Officer, Bundelkhand and Narbudda Districts, during the period Surgeon-Colonel E. O. Tandy is on leave or until further orders.

642. The undermentioned officers are granted leave to England:—

Army Medical Staff.—Surgeon-Captain F J. W. Stoney, for four months, on urgent private affairs.

646. The undermentioded officers have been declared by the Board of Examiners, Calcutta, to have passed the Lower Standard in Hindustani:—

* * * * *

Assistant Apothecary C. J. Fox. Sub-Medical Department.

559.—Apothecary C. E. Davis is granted four months' leave in India, on medical certificate, under the Leave Rules of 1868.

654. The undermentioned Native Military Pupils having passed their final examination are admitted in to the service as sub-Hospital Assistants with effect from 16th June 1893:—

781 Muhammad Yusuf.

782 Muhammad Abdul Hakim.

654. The undermentioned officer is granted leave to England:—

Army Medical Staff—Surgeon Captain H. S. Peeke, for four months, on urgent private affairs.

Surgeon-Colonel G. Thomson, M. B., Indian Medical Service, Administrative Medical Officer and Sanitary Commissioner of the Central Provinces, to officiate as Principal Medical Officer of the Lahore District, *vice* Surgeon-Colonel G. C. Chesnaye,

BURMA GAZETTE.

No. 353.—Surgeon-Lieutenant-Colonel O. Baker made over and Surgeon-Major S. H. Dantra, M.D., assumed charge of the duties of Civil Surgeon, Rangoon, on the afternoon of the 28th July 1893.

No. 354.—Surgeon-Major S. H. Dantra, M.D., made over and Surgeon-Captain J. H. Sellick, M.B., assumed charge of the duties of Junior Civil Surgeon, Rangoon, on the forenoon of the 29th July 1893.

No. 355.—Surgeon-Captain J. W. Wolfe made over and Surgeon-Captain C. W. Johnston, assumed as a collateral charge the duties of Civil Surgeon, Meiktila district, on the afternoon of the 30th July 1893.

No. 356.—First Grade Hospital Assistant No. 27, Hardoyal Dey made over, and Mr. C. Martin assumed, charge of the duties of Civil Surgeon, Kyaukpyu district, on the forenoon of the 20th July 1893.

No. 357.—With reference to Notification No. 346 dated the 27th July 1893, First Grade Hospital Assistant No. 219, Dumree Lal assumed charge at the Civil Dispensary, Allanmyo, Thayetmyo district, on the forenoon of the 20th July 1893.

No. 358.—Second Grade Hospital Assistant, No. 130, Pultu Ram, on transfer to the Pakôkku district, relinquished charge at the Outpost Hospital, Minhla, Thayetmyo district, on the forenoon of the 21st July 1893.

No. 359.—Third Grade Hospital Assistant, No. 176, Shaik Hassan Katib relinquished charge at the Myitkyina-Mogaung Railway Survey, Ywataung, on the afternoon of the 31st May 1893, and assumed charge at the General Hospital, Mandalay. on the forenoon of the 3rd June 1893.

No. 360.—Third Grade Hospital Assistant, No. 176, Shaik Hassan Katib, relinquished charge at the General Hospital, Mandalay, on the forenoon of the 4th June 1893, and assumed charge at the Police Hospital at that station on the afternoon of the same date.

No. 361.—Third Grade Hospital Assistant, No. 176, Shaik Hassan Katib relinquished charge at the Police Hospital, Mandaly, on the forenoon of the 18thJune 1893, and assumed charge at the General, Hospital Rangoon, on the forenoon of the 19th June 1893.

No. 392.—Third Grade Hospital Assistant, No. 176, Shaik Hassan Katib relinquished charge at the General Hospital. Rangoon, on the forenoon of the 23rd June 1893, and assumed charge at the Lunatic Asylum, Rangoon, on the afternoon of the same date.

No 363.—Sundar Singh and Mohomed Khan are appointed Third Grade Hospital Assistant, with English qualifications, and posted to the Ruby Mines district and Southern Shan States respectively.

No. 27.—First Class Hospital Assistant Hardoyal Dey and Mr. C. Martin respectively made over and received charge of

the executive and medical charge of the District Jail, Kyaukpyu, on the forenoon of the 20th July 1893.

No. 28.—Surgeon-Captain T. W. Stewart and Surgeon-Captain F. J. Dewes respectively made over and assumed charge of the executive and medical charge of the Minbu District Jail on the afternoon of the 29th July 1893.

No. 368.—Under letter No. 1341, dated Simla, the 30th March 1893, from the Secretary to the Surgeon-General with the Government of India, the services of Second Grade Hospital Assistant Mahomed Amir are transferred permanently to Civil Medical Department Burma.

No. 369.—With reference to the above notification, Second Grade Hospital Assistant Mahomed Amir relinquished charge at No. 8 Party Survey of India, (Orissa), Cuttack, on the the afternoon of the 21st June 1893, and assumed charge at the Police Hospital, Bhamo, on the afternoon of the 20th July 1893.

No. 370.—With reference to Notification No. 340, dated the 20th July 1893, Third Grade Hospital Assistant, No. 104, Mahomed Sheriff assumed charge at the Police Hospital, Mogok, Ruby Mines district, on the afternoon of the 25th July 1893.

No. 371.—Third Grade Hospital Assistant, No. 94, Mahomed Wasil, on transfer to Kyaukpyu, relinquisued charge at the General Hospital, Akyab, on the afternoon of the 31st July 1893.

No. 372.—With reference to Notification No. 351, dated the 27th July 1893, Third Grade Hospital Assistant, No. 77, Gurudas Barua assumed charge at the Outpost Hospital, Letpanda, Shwebo district, on the forenoon of the 30th July 1893.

No. 373.—With reference to Notification No. 363 dated the 3rd August 1893, Third Grade Hospital Assistant Mahomed Khan assumed charge at the Civil Dispensary, Fort Stedman, Southern Shan States, on the afternoon of the 27th July 1893.

No. 374.—Third Grade Hospital Assistant Tara Prosana Banerjee, on retransfer to India, relinquished charge at the Police and Jail Hospitals, Yamèthin, on the afternoon of the 10th August 1893.

No. 375.—Under endorsement No. 9256, dated Simla, the 6th June 1893 from the Secretary to the Surgeon-General with the Government of India, the services of Third Grade Civil Hospital Assistant Ali Ahmed are transferred permanently to the Civil Medical Department, Burma.

No. 376.—With reference to the above Notification Third grade Hospital Assistant, Ali Ahmed relinquished charge at the Deota Forest Dispensary, Jamusar division, on the forenoon of the 15th July 1893.

No. 377.—Copy of certificate, dated Poona, the 26th July 1893, by the Surgeon-General with the Government of Bombay:—

"Certified that No. 151, Tantia Khundoji qualified himself for promotion in the next higher grade on the 17th April 1893, and is entitled to the pay of the same with the allowance for English qualification from the 1st April 1893."

No. 378.—Under endorsement No. 2040, dated Simla, the 22nd May 1893, from the Secretary to the Surgeon-General with the Government of India, the services of Third Grade Civil Hospital Assistant, Jogendra Nath Roy Chowdry of the Bengal Provincial establishment, are transferred permanently to the Civil Medical Department, Burma.

No. 29.—Surgeon-Captain J. W. Wolf, M.B., and C. W. Johnson A. M. S., respectively made over and assumed charge of the executive and medical charge of the Meiktila District Jail on the afternoon of the 30th July 1893.

No. 30. Surgeons-Captain J. H. Sellick and J. W. Wolfe repecestivly made over, and assumed charge of the executive and medical charge of the Rangoon Central Jail on the forenoon of the 4th August 1893.

Domestic Occurrences.

BIRTHS.

CHATTERJI.—At Basti, on July 31, 1893, the wife of Surgeon-Major F. C. Chatterji, M. B., Civil Surgeon, of a daughter.

LEASK.—At Majar Hill, Bombay, on July 31, 1893, the wife of James Leask, Assistant Health Officer, Bombay Municipality, of a son.

REEVES.—At Kodaikanal, on August 1st, 1893, the wife of Surgeon-Major D. C. Reeves, of a daughter.

MARRIAGE.

AMESBURY—MADDEN.—On the 20th July, at St. Peter's Brighton, Frederick Cholmondeley Dering Amesbury, Lieutenant, India Staff Corps, second son of the late Joseph Walter Raleigh Amesbury, Surgeon-Major, Indian Medical Service, to Emma Edith, eldest daughter of F. W. Madden, M. R. A. S., and grand-daughter of the late Sir F. Madden, K. H., F R S.

DEATHS.

BARCLAY.—On the 23rd June, on Board the British India steamer, *Manora*, Ian, eldest son of the late Dep. Surg-Gen. A. Barclay.

PEEVOR.—At Bakloh, Punjab, on the morning of the 24th July, 1893, Surgeon-Major G. H. Peevor, I. M. Service, 1st Battalion, the Goorkha Rifles, of remittent fever.

Acknowledgments.

ANSWERS TO CORRESPONDENTS.

Medicus.—Your letter cannot be inserted, no good will come from it.

Pagan.—The letter you have sent would occupy about three pages, and no one would care to read it. We are willing to give you one column if you will condense all you wish to say into that space.

Enquirer.—Communicate with Messrs Gordon and Gotch, 15, St. Bride Street, London.

Dr. T. M. S.—Many thanks for your paper.

Dr. P.—Your papers will appear in the next issue.

S.—Send to some other paper.

Medical Student.—We have sent you a complete set.

Dr. G.—Many thanks, later on.

Dr. M.—Your request has been noted.

Dr. A. P. D.—Next month.

Ajax.—We regret we cannot advise you in any way.

Medical Practitioner.—See our July issue.

Candidate.—We are collecting all the matter we can get on the subject, and will publish the same from time to time next year.

Communications have also been received from the following:—

Surgeon-Captain R. H. Castor, I.M.S. Myingyan, Burmah; Surgeon-Captain P. Prasad. I. M. S. Shwebo, Burmah; Surgeon-Captain B. D. Basu, I.M.S. Ahmedabad; Dr. R. Nugent, Calcutta; Messrs F. C. Calvert and Co., London; H. W. Foscholo, Esq, W.M.O., Calcutta; Secretary, Royal College of Physicians, London; Dr. William Huntley M.D., Jodhpur, Rajputana; Dr. Nilkanthrai Dayabhai, L.M.S., Ahmedabad; Dr. H. J. Augustine, Entally, Calcutta; Dr. Taraknath Ghose, Assistant-Surgeon, Shahjahanpur; Professor G. Bacelli M.D., Chairman, International Medical Congress, Rome; Mr. A. M. Wadejaonkir, Medical Student, Grant College, Bombay; Dr. P. Dias, Aden; Dr. Mohomed Sudrudin, Hyderabad; Dr. Leonard A. Bidwell, London; Dr. A. C. Bose, Calcutta; Dr.

Lennox Moore, London; Dr. A. P. Dass, Calcutta; Dr. N. C. Mittra, Ranchee; Dr. R. G. S. Chew M.D., Calcutta; Dr. T. M. Shah, Junagadh; Dr. A. L. Sandel M.B.C.M., Calcutta; D. Robertson, Esq.. W.M.O., Ootacamund; Dr. R. P. Banerjee B.A., G.B.M. S.L., Pachbadra, Rajputana; Dr. Mul Chand, Civil Hospital, Delhi; Dr. R. N. Ghosal, Barisal; Hospital-Assistant Murari Lal, Lansdowne; Dr. C. Martin, Civil Surgeon, Kyaukpyu; Dr. J. C. Day, M.B., Assam; Dr. Wright, London, Dr. V. J. Pillai, Madras; Dr. Green, London; Dr. Brindabun Ch. Chowdhury, L.M.S., Purulia; Hospital-Assistant Jos. Zacharia, Coorg; Messrs Adam Reddick and Co., London.

Periodicals.—The Lancet—The British Medical Journal—The Edinburgh Medical Journal—Indian Medical Gazette—Journal de Mèdicine de Paris—Modern Medicine—Australian Medical Journal—The Sanitary Journal—The Medical and Surgical Journal—The Medical Times and Register—The Lancet-Clinic—The Medical Bulletin—The Medical and Surgical Reporter—The New York Medical Journal—The Family Doctor—The Medical Week—Health Messenger—Health—The Medical Record—British and Colonial Druggist—Chemist and Druggist—The Medical Review—New Orleans Medical and Surgical Journal—The Medical Monthly—The Scalpel—The Humanitarian—The Popular Science Monthly—The Sanitary Record—The Medico-Surgical Bulletin—The Southern Medical Record.—The Sanitarian—Doctor's Weekly—The Post Graduate—The Therapist—The Universal Medical Journal—The Medical Compend—The Medico-Chirurgical Review—The Medical Fortnightly—Notes on New Remedies.—The American Therapist.

Books received.—Advice on the Prevention and Treatment of Cholera, with Prescriptions, By C. F. P. Sebastian, W.M.O., (C. M. S. "Dove" Press, Masulipatan)—Braithwaite's Retrospect of Medicine, Vol. CVII, 1893. (Simpkin and Co., Ld. London).

Government Gazettes.—Gazettes of the Government of India, N. W. P. and Oudh, Burmah, Central Provinces, and Assam—G. O. C. C.

Newspapers.—The Broad Arrow—The Home News—The Indian Daily News—The Statesman—The Eastern Guardian—The Evening Star—Newman's Bradshaw—Hope—The East—Bombay Native Opinion—The Bangalore Spectator—Nagpur and Berar Times—Progress—Punjab Patriot—Arrakan News—Rangoon Gazette Weekly Budget—The Express—Madras Advertiser—Behar Herald and Indian Chronicle—Bombay Guardian—Banner of Asia—Tribune—Beluchistan Gazette—Western Wit and Wisdom—Indian Empire—Gwalior Gazette—Eurasian Recorder—People's Friend—India Watchman—Messenger of Light—Indian Nation—Indian Union—Poona Observer—National Guardian—Indian Engineering—Courier—The Argus—The Bengal Times—Signs of the Times—The Indian Textile Journal—The Amrita Bazaar Patrika (Weekly Edition).

Notices.

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Original Articles.

A FURTHER REPORT ON THE COMPLETE ABANDONMENT OF THE CUTTING OPERATIONS FOR REMOVING CALCULI ENTIRE FROM THE BLADDER, AND THE METHODS EMPLOYED INSTEAD AT THE CIVIL HOSPITAL, HYDERABAD, SINDH.

By J. FORBES KEITH, M.D., AND C.M., (ABERDEEN),
BRIGADE-SURGEON-LIEUTENANT-COLONEL,
CIVIL SURGEON AND SUPERINTENDENT, AND
TEACHER OF THEORETICAL AND CLINICAL SURGERY,
MEDICAL SCHOOL, HYDERABAD, SINDH.

It will be seen from a perusal of my paper on "THE COMPLETE ABANDONMENT OF THE OPERATION FOR REMOVING CALCULI ENTIRE FROM THE BLADDER, AND THE METHODS EMPLOYED INSTEAD," that my great aim was not only to extend the sphere of lithotrity and bring within its range much larger stones than it then embraced; but also to reduce, as much as lay in my power, the size of the wound and place it in such a position that, without interfering with the structures or functions of the bladder or prostate gland, stones ineligible for urethral might, through it, be removed by perineal lithotrity.

In order to have my methods for abandoning the cutting operations clearly before the mind, it will not be here out of place to review the circumstances which first gave origin to the idea, and trace out the various steps which have been taken towards its complete realization.

A case of incontinence of urine and disorganisation of the anterior structures of the vaginal wall in a young girl, the result of the removal of a calculus by the cutting method, produced such a profound impression on my mind, that I determined for ever to abandon, if possible, the cutting operation in the female. Notwithstanding the bugbear about the non-retention of fluid in the bladder during the operation in the female, and the danger to the mucous membrane likely to result therefrom, lithotrity in the female (or in the male) seemed to me to be the only operation yet invented (or likely to be so) for removing calculi from the bladder, and at the same time preserving its structures and functions unimpaired. The complete contrast between the two operations had always a peculiar fascination for me; for, if the theory of lithotrity could ever he realised in the practice of the operation, stone in the bladder was for ever divested of all its terrors. There was some art even in the idea of removing a stone from the bladder without in any way interfering with either its structure or functions; but there was certainly very little in the idea of making in it a wound large enough to extract the calculus by means of a forceps. Although I began the operation in the female under rather adverse circumstannces, viz., with inferior instruments and patients suffering from irritability of the bladder with fœtid urine, yet all my operations were in them attended with the best results. The phantom of danger to the mucous membrane from the absence during the operation of fluid in the bladder, disappeared at once when submitted to the crucial tests of practical experience. Furnished with a complete set of lithotrity instruments, I have with equal ease and success now performed this operation on patients of all ages and both sexes, without even the appearance of blood in the urine, which shows that the first and the most delicate structure, the living mucous membrane of the bladder, was left intact.

From the shortness, roominess, and dilatability of the female urethra, the range of lithotrity in them it was clear could be limited only by *the largest instruments available, whereas* in males on account of the variability in the size of the urethral canal, the sphere of lithotrity in them was circumscribed, not by the largest instruments available, but by the *variations in the size of the urethra*; sometimes the male urethra was so small that it could only admit of a No. 10, while the diameter of the stone was too large for the male screw of this lithotrite. There was then no alternative but that of removing the stone entire by some of the cutting operations. How then could this obstacle to the extension of the sphere of lithotrity in the male be removed? By slitting up the membranous, and entering the urethra at the prostatic portion where, like that of the female, it is short and roomy. The bugbear about the danger to the mucous membrane from the non-retention of the auxiliary fluid during the operation having disappeared, my first method, perineal lithotrity, thus comes in and advances lithotrity in the male to a par with that of the female, which is limited by the largest instruments available. The results of this operation, as will be seen in the sequel, have been as brilliant almost as lithotrity in the female; and at the same time it preserves the structures and functions of the bladder and prostatic gland unimpaired. With a complete set of lithotrity instruments I have performed perineal lithotrity with equal success on patients of all ages, from the child at the breast to the old man tottering on the other extreme of life. This is the first step in advance of the methods for removing calculi from the bladder practiced by the profession, when urethral lithotrity is inadmissible from the narrowness of the urethra. The second soon followed.

We have now, in male and female alike, advanced lithotrity to limits circumscribed by the largest instruments available. The largest lithotrite in Bigelow's case locks on stones a little over one and a half inches in diameter; but many cases of

stone are admitted into Hospital with diameters much larger than this instrument can embrace. Seeing the ease with which the largest lithotrites traversed the urethra of the female, and the prostatic portion of the male, after slitting up the membranous part; and thoroughly convinced in my own mind that lithotrites of much larger size could be readily introduced into the bladder of both sexes; and thus much larger stones brought within the sphere of lithotrity, causing a corresponding abandonment of the cutting operations for removing calculi entire from the bladder, I wrote out a description, of the new kind of instrument I wanted, to Messrs Coxeter and Son, and found my new lithotrite answer my purpose in every way. It was a bold, massive, compact highly-finished instrument, the peculiarities of which were its length of male screw (embracing calculi of 2½ inches in diameter), and its long and massive jaws. I had not long to wait before its merits were put to the test, and to my great satisfaction I found it as sensitive and easily handled as any of my other smaller lithotrites. For breaking up calculi, in the first instance, this lithotrite is a complete success; and I find that by its use I can remove large calculi with almost as much safety to the patient as I can do smaller stones, with this difference, that the patient is much longer under the influence of chloroform. The little wound in the perineum is of no consequence, as will be seen in the sequel. The origin of these methods was thus far the outcome of pure deliberation, the one idea following the other by natural sequence; but the next method came to me by pure accident, and although in itself seemingly insignificant, and although I did not at first recognise its importance, it has yet been as influential as the others in developing the central idea of abandoning the removal of stones entire by the cutting methods, and enlarging the sphere of lithotrity in both male and female. Its origin and progress were related in the *Indian Medical Record* for February 1892, and its chief points are here recapitulated. It was the case of a female with a large stone in the bladder and my perineal lithotrite was at home undergoing repairs. She was put under the influence of chloroform and on introducing the largest lithotrite in my possession, and seizing the stone, I found the male screw completely outside the box of the lithotrite, and in the absence of my perineal lithotrite, the only alternative was to perform some of the cutting operations. While I was thus standing helplessly looking at the screw of the lithotrite, and wondering which operation I should perform—whether supra-pubic or vaginal—and thinking over the enormous wound which would have in either case to be made in the walls of the bladder, the idea suddenly occurred to me to hit the lithotrite on the top with a hammer and try to bring the screws together in this way. The idea was at once adopted and put into execution. The hammer was applied and the two screws (male and female) of the lithotrite being immediately brought together, the stone was crushed; and so on with the fragments which were too large for the male screw of the lithotrite; the hammer was applied whenever it was necessary to bring them together and the stone was thus successfully removed. When I visited the patient next morning she was sitting in bed, having her breakfast, which consisted of *bajree* bread with the flesh of the goat. She was, she said, quite well, had passed urine freely, and the structures and functions of the bladder were unimpaired. The stone was a soft one, and weighed about one and a half ounces. Since the publication of this case, I have had many opportunities of putting this expedient to the test; but the salient points of a case operated upon in the month of October 1892, will not only be additional proof in its favor, but will also point out how far I have successfully extended the sphere of *urethral* lithotrity. Among Beloochees the penis and the urethral canal are sometimes largely developed, so much so that I have been often able to introduce my perineal lithotrite with ease, and break up large calculi in the first instance with it. Some of these conservative old gentlemen, rather than face a cutting operation, will nurse their calculi until they have reached a very large size.

This Belooch, on being sounded, the stone was found of unusually large size, and being told that it could only be removed by perineal lithotrity he replied that, unless I could remove it without cutting of any kind, he would gain credit for the virtue of carrying the only real affliction he ever had in life to the grave with him. He took chloroform on the condition that I would not touch him with a knife. My perineal lithotrite traversed the urethra with the greatest ease; but, on seizing the stone the male screw appeared all outside the box of the lithotrite. This was a case which settled once for all the value of this expedient. A few gentle taps of the hammer brought the screws immediately together, and the stone was broken up in the first instance, in this way, and successfully removed by a No. 20 evacuating catheter. It weighed four and a half ounces. This may seem a very heroic procedure, but it really is not so; stones of this size are as a general rule soft, at least their outer crust is so, and a few gentle taps with the hammer are quite sufficient to break through the crust and bring the screws together. The first time I had recourse to this expedient, I began with quite an unnecessary amount of force, which is as a rule uncalled for. This is the largest calculus I have ever removed *per urethram*, and the operation was performed by combining the use of my perineal lithotrite with the expedient of striking it on the top, so as to bring the screws together. Thus far I have now extended the sphere of lithotrity, and along with the extension of the domain of lithotrity follows the corresponding abandonment of the cutting methods, or, which is the same thing, of the operations for removing calculi entire from the bladder.

The lithotome.—I wish before concluding this section of my paper on the removal of stones *per urethram*, to supplement it by giving the details of an instrument, I have devised for *cutting* stones whose density resists all efforts of the lithotrite to crush. The instrument was first suggested by a case which was admitted into Hospital on the 3rd of June, 1892. The patient was a Hindoo Cutchee, from Thur and Parkar, aged about 40, with all the symptoms of stone in the bladder. He was put under the influence of chloroform and the stone was

seized; but no power in my possession could make any impression on it, and I had no alternative but to perform lithotomy. It was a flat reddish grey calculus of the uric acid variety, weighing 2½ ounces. Hitherto I had all along to contend with the bulk of the stone; now I was face to face with density and toughness, qualities which must also be taken into consideration, if the doctrine of the complete abandonment of all the cutting operations for removing the stone entire, is to be held in its entirety. Well! if the stone could not be crushed, there was only one other way of disposing of it, *viz.*, by cutting or splitting it. The only instrument a stone can be split with is a wedge, and a wedge is not pushed home into the stone by a screw; but struck home by a hammer. Here the rudiments of the kind of instrument I wanted, were already in my mind's eye. The male jaw could be converted into a wedge, or a couple or more of small sharp wedges with indentations between; and the male stem or shaft of the lithotrite could be made entire with a nob at the end to accomodate the hammer when striking. As I had already ample experience of the effect of striking the top of the lithotrite with the hammer, I was so confident that this new contrivance would succeed that I wrote out a full description of the kind of instrument I wanted, to Messrs Coxeter and Son, and ordered two of them of different sizes. I have now used one of these instruments five times and succeeded in cutting up stones, in the first instance, which resisted all efforts of the lithotrite to crush; but the case to be related seemed at first to defy all efforts of the lithotome to cut the stone. It was that of a Mussulman, aged about 30, named Pandi Isar, from the Belooch mountains, admitted into Hospital on the 4th August last, suffering from all the symptoms of stone in the bladder, which he had for the last four years. He was tall, of slight build, and otherwise in perfect health. Under the influence of chloroform, as his urethra was a roomy one, a No. 16 lithotrite was introduced, and the stone seized. The male screw at first appeared all outside the box of the lithotrite, but by quitting my hold and seizing the stone at other points, I at last succeeded in locking the lithotrite. But the resistance was, at once, so complete and decided, that I at first thought there must be something wrong with the screws. I unlocked them and quitted my hold of the stone; but, finding my instrument in perfect order, I again seized it, and locked the screws; but the resistance was found to be as decided as before; and I could make no impression on the stone. Withdrawing No. 16, I introduced my perineal lithotrite and again seized the stone; but all my efforts to make any impression on the calculus proved abortive. Tapping the stone with the lithotrite, it gave out a clear ringing sound like flint. I had not met with anything resembling it since the case referred to above, which first suggested the invention of the lithotome, which was now resorted to as the only resource left in the development of the art of reducing the stone to *debris*. I was now face to face with the reality that the stone must be cut or the patient. The necessary precautions being taken *viz.*, to put the patient profoundly under the influence of chloroform, and to keep the bladder as full as possible of fluid, the lithotome was introduced and the stone seized. The lithotome with the stone in its jaws being then held as nearly as could be judged in the centre of the bladder, in order to be as distant as possible from the hard parts of the pelvis, and to neutralise as much as possible the vibrations of the blows by the fluid, the hammer was applied. The force of the blows was at first such as I had formerly been in the habit of administering; but they had the effect only of sending the shaft home about the eighth of an inch. The screw being as before firmly tightened up against the node, the hammer was again applied. But although the blows were increased to the greatest force I could apply to such a small point, the staff remained exactly in the same place. After a little rest, on again applying the hammer, the nob at the end of the shaft was smashed in two, and flew away in different directions, leaving the point of the shaft with the little screw on it to which the nob was attached bare. The space for the accomodation of the hammer, small enough before, was now reduced to a mere point. I kept on hitting that, however, and at last the shaft yielded and a few gentle taps sent it completely home. But even for the second, third, and fourth time the stone was seized and cut, the resistance was so violent that I thought that possibly, after all, I would have to resort to the old methods; but I nevertheless persevered, and in about ten seizures the fragments could be broken up by the slightest taps. The lithotome being then withdrawn, the operation was finished with the greatest ease by the No. 16 lithotrite. The *debris* in large square particles, making a rattling noise as they dropped into the basin, was evacuated by a No. 18 catheter; it is remarkable that there was no finely divided sand or mud amongst its particles. It is a mistake, therefore, to suppose that the *debris* requires to be reduced to finely divided sand or mud before it can be evacuated without the aid of the aspirator. The *debris* when first evacuated had almost the appearance of coal, but on drying it assumed a greyish hue. It weighed when dry over two and a half ounces. This was the hardest stone I ever had to deal with. Fortunately they are very rare. The other four calculi, which were cut by the lithotome, were so red in colour that during the evacuation of the *debris* it seemed as if blood were mixed with the auxiliary fluid and it was composed of coarse particles mixed with a good deal of mud; but when the *debris* was dried it turned to a fawn colour. They were not nearly so hard, however, as the one the removal of which has just been described.

I operated on the patient in the early morning (the operation lasting 100 minutes), and in the afternoon, when I returned to hospital, I found him sitting up in bed eating curry and rice. I was very much surprised to see him so far recovered. The pulse was about 90 per minute, temperature normal, and his urine was passed without any inconvenience. Next morning, although he passed a good night, he vomited some milk he had taken, felt nausea and disinclination for food, with slight pain diffused over the abdomen, pulse about 100 per minute and slightly irregular in volume, temperature also about 100, tongue clean and moist, skin cool and moist with perspira-

tion, urine passed freely. He felt great langour and drowsiness and a disinclination to move. A mustard poultice was immediately applied over the abdomen, ice was given to suck, and his food and drink were iced for him. He passed the day eating and drinking small quantities at a time, and sleeping in the intervals. In the evening he felt much better but still complained of great langour and drowsiness. The second morning after the operation he was better in every way; urine passed freely. On the third day his brothers were no longer anxious about him, as his appetite had returned and he complained only of pain in the joints. All his bladder troubles had vanished.

Having thus pointed out the various steps taken towards the realization of the idea of extending the sphere of *urethral* lithotrity, with the corresponding abandonment of the cutting operations; having traced out the various methods employed in contending with and overcoming the physical difficulties of bulk and density that lay in the way, and having related the salient points of cases illustrative of the successful extension of lithotrity to the bulk of four and a half ounces, and to the density of the hardest of urates and oxalates, I now proceed to put on record the principal features of a case of stone, the removal of which, by my perineal method, extends the domain of lithotrity to calculi weighing seven and a half ounces, and at the same time it shows the nature, extent, and position of the wound through which this large stone was evacuated.

Bakhu Meerkhan Lashkari, Mussulman, aged about 18 years, was admitted into Hospital on the 9th of March 1893, with all the symptoms of stone in the bladder, from which he had been suffering for the last three years. He was reduced to almost a skeleton. His ribs were prominent and his belly so much sunken that the impulse of the aortic artery could be seen in its walls. His organs, however, seemed healthy, with the exception of the spleen, the outline of which could be seen midway between the costal margin and the mesial line. His pulse was soft, compressible, and about 90 per minute; temperature normal; appetite pretty good. He looked altogether as if he had been suffering from starvation, and his voice was a falsetto. Micturition had become so frequent and painful that he had no proper rest day nor night. Aided by the emaciated condition of the parts, bimanual palpation discovered a stone of unusually large size settled well down on the rectum behind the prostate gland. When asked why he was so long in coming to hospital? He replied that he was afraid of a cutting operation; and he had now come as he had heard that cutting had now been abandoned for the crushing methods. Several consultations were held as to the advisability of performing an operation on him at all, and the opinion prevailed that from any surgical interference an unfavourable result could only be anticipated on account of his reduced state of health. The frequent appeals of the patient whose life had become a burden to him, confidence in my own methods, and seeing that this operation would be a test as to how far the limits of lithotrity could be pushed, I determined to risk it.

The patient being put under the influence of chloroform, it was found that the largest lithotrite that could be readily introduced into the urethra was a No. 10; the idea, therefore, of performing urethral lithotrity could not be entertained. I accordingly introduced a staff and proceeded to perform my own operation—perineal lithotrity. An incision, capable of admitting the small director, was made by the tenotomy knife (both belonging to the pocket case) through the perineum directly into the membranous portion of the urethra. The director being then introduced through this small wound, into the groove of the staff, was slipped along it into the bladder. Urine escaping, and the stone being felt by the director, the staff was withdrawn. With a series of sounds, ranging from the smallest to the largest in my possession, I now proceeded to dilate the wound until it was large enough to admit my perineal lithotrite. It will be observed here, parenthetically, that the dilatation of the wound is a slight modification on the plan described in my first paper, and that it is confined to the skin and membranous portion of the urethra *at the furthest*—never to the prostate gland, which requires no dilatation even for the introduction of the largest instruments. The blood arising from a small wound like this, in such a position, is very insignificant, and may be left entirely out of consideration.) When the wound was large enough the lithotrite was introduced and the stone seized; but the male screw was found all outside the box of the instrument, and by applying a measure it was calculated that the part of the stone seized would be over three inches in diameter. A few gentle taps of the hammer on the top of the lithotrite brought the screws immediately into apposition, and the stone was then crushed by the screw, no force or violence of any kind being called for. Whenever the male appeared beyond the female screw, they were brought together by gentle taps of the hammer, and then the screw applied, and so on, until the time when the large lithotrite could be changed for a smaller one; for, when the stone is a very soft one as most of these large concretions are, and when the jaws of a smaller instrument can firmly seize and hold the fragments (the hammer being, if necessary, applied as easily to a small as to a large instrument), it is always well to work with as small an instrument as possible. After in this way removing three ounces of *debris* from the bladder, the operation was stopped, as he had been altogether under the influence of chloroform for two hours, and the probable result of the further prolongation of the anæsthetic gave me considerable uneasiness. Next day he complained of the taste of the anæsthetic in his mouth and a nauseous feeling which blunted his appetite; but there was no vomiting; no rise of temperature in the rectum, nor quickening of the pulse. There was no pain or irritability of the bladder beyond what he had previously suffered. The urine was passed as a voluntary act by both wound and penis, and the bed clothes remained dry. I wished him to lie quiet on his back and pass his urine into some vessel; but he preferred getting up to pass it. The great aim, therefore, for which this operation was devised was thus so far attained, *viz.*, the preservation of the structures

and function of the bladder unimpaired. On the fourth day after the first sitting he asked me to finish the operation, as he now felt as fit as he was on his admission. So the second sitting was begun. The hammer had to be frequently employed to bring the screws of the lithotrite together (as described above), and in the course of 90 minutes, four ounces more *debris* were, without the occurrence of any untoward symptom, successfuly removed. There was no blood lost during either of the sittings, the auxiliary fluids during the various washings-out of the debris from the bladder, returning quite free from it; for my theory of lithotrity is to remove, if possible, all stones from the bladder, without in any way interfering with either its structure or function. This is the great idea I have set before my mind, and how far it has been realized, it is the object of this paper to faithfully and truthfully lay before the profession. Now, in the performance of this operation, what is the leading sign that this great object is being accomplished? It is the absence of blood during the operation. The first structure which must always be in the mind's eye is the delicate mucous membrane. When the *meatus urinarius externus* is opened for the reception of the heavy massive lithotrite, and when the latter comes in contact with this delicate structure, the mind is immediately awakened to the sense of the degree of dexterity and delicacy of manipulation, which must be unremittingly exercised in order to insure the integrity of the mucous membrane, and the sure sign that this indication is being fulfilled to the letter, is the absence of blood during the operation. If there is no blood during the operation, there need be no anxiety as to its result. For, when there is no blood, there can be no abrasions, no bruisings, no laceration of the structure.

The evacuating catheter was at first a No. 18; but as the wound during the last sitting showed a decided tendency to contract, it had to be finished by a No. 12 lithotrite, and a No. 13 evacuating catheter.

It may be mentioned here that I have now both in urethral and perineal lithotrity completely abandoned the use of the aspirator. The idea of applying the aspirator to the evacuation of *debris* from the bladder, arose from a mistaken physiological conception, or perhaps, properly speaking no conception at all of the extent of power the bladder had in itself of evacuating *debris* from its cavity. The latter however, is not considered sufficient to effect the evacuation of residual particles lurking amongst the corrugations of the mucous membrane, behind an enlarged prostate or the neck of the bladder. Its universal use by the most eminent Surgeons shows that it is still considered necessary to the thorough evacuation of *debris* from the bladder. Having myself now removed the *debris* of over a thousand calculi from the bladder, without the use of the aspirator, and with, so for as I am yet aware, only a single recurrence of the disease amongst all these cases, it is fully demonstrated, I think, to the profession that, for the successful and thorough evacuation of *debris* from the bladder, the aspirator is although highly imposing, an absolutely unnecessary instrument. It not only does not aid but actually neutralises the natural expulsive energies of that organ; for, by withdrawing the auxiliary fluid it removes the natural stimulus to its reflex contractile power. In the evacuation, therefore, of *debris* from the bladder, I rely on the energy of its reflex muscular contraction, excited by a stimulus similar to the urine, instead of the extensile energy of an India-rubber bag—to a natural *vis-a-tergo* instead of an artificial *vis-a-fronte*.

In old men suffering from atony of the bladder, where, on account of changes in the prostate gland, the power of emptying itself is *partially* lost when all obstruction is removed by the introduction of the catheter, its contractile energy is sufficient to expel the *debris* even with force. I lately performed urethral lithotrity in a case, where on account of impacted calculi, retention prolonged for ten days had caused atony with, for the time, *complete* loss of the power of emptying the bladder. The fluid with the *debris* was easily evacuated in this case by pressure of the hand over the epigastrium. The bladder had to be emptied by the catheter several days after the operation, until its normal tone was again restored; but, during the many times the catheter was introduced, the urine withdrawn, and the bladder washed out, no residual *debris* was detected. Such are the cases, however, where, theoretically, the aspirator in the evacuation of debris from the bladder would play its proper *role*, if it is to have one at all. For injecting the bladder, I now simply use two syringes with a nozzle fitting the *meatus virnarius externus*, with an Assistant trained to fill them with fluid and not with air. The difficulty of keeping the auxiliary fluid at the proper temperature necessitated the abandonment of my other method mentioned in my first paper.

When allowing the patient to wake up (after the operation is finished), and leisurely washing out the last particles of *debris* from the bladder, the real nature and extent, of the wound in the perineum, and membranous portion of the urethra, may be judged from the behaviour of the stream of the auxiliary fluid, when it is injected through the wound or urethral canal into the bladder. Introduce the smallest nozzle (=to No. 6 catheter or larger according to the size of the evacuating catheter employed) of a syringe through the wound into the bladder, and inject two or three ounces of the fluid, or until the patient makes micturitive efforts, or until the bladder becomes slightly distended (which can be readily seen in slight subjects from bulging of the epigastrium). On arresting the motion of the piston some of the fluid returns (1) by the penis. This is almost always seen in children whose bladders are extremely sensitive, and very little fluid can be introduced into them before it begins to return by the penis; and this it does sometimes even during the act of injecting the bladder. If after injecting the fluid into the bladder the nozzle of the syringe is instanly withdrawn, the fluid may all pass, as in the first instance by the penis, or (2) by penis and wound, or (3) all by the wound. While washing out the portion of urethral canal anterior to the wound (which I invariably do as a finishing detail) with a nozzle fitting as accurately as possible the *meatus urinarius externus*, and sending a stream down the urethra in the direction of the wound and bladder; the fluid (1) flows all into the bladder (especially seen in children) or (2) partly into

the bladder, and partly escapes from the wound; or (3) all escape from the wound. If the fluid is retained in the bladder and micturitive efforts are excited by bimanual manipulation on pressure over the epigastrium, the fluid is passed (1) all by penis, (this is especially the case if the lithotrity position is abandoned and the extremities stretched out and brought together); or (2) by penis and wound (it is highly interesting to observe the two streams flowing out together); or (3) all by wound.

After the operation, the patient whose case has just been related, for the first few micturitive acts, passed his urine by penis and wound, afterwards all by penis. Children as a rule pass their urine after the operation all by the penis; old men all by wound. But in an operation I lately performed on an old man, after abandoning the lithotrity position and stretching out and bringing the extremities together, it was noticed that he passed urine or fluid all by penis. I then as an experiment injected fluid into the bladder; it went all past the wound and returned again by the penis; the wound remaining dry during both processes.

I lately operated upon a little sickly patient about a year old for a large stone, having to use a No. 10 lithotrite; when washing out the part of the canal anterior to the wound in this case, the fluid partly escaped by the wound and partly passed into the bladder. Observing the fulness in the epigastric region, I withdrew the syringe and applied pressure over the epigastrium with the view of exciting micturition; but no urine was passed; I then tried bimanual palpation, with the same result; and at last I emptied the bladder by the catheter.

These observations on the behaviour of the stream of the auxiliary fluid, or of the urine, to the wound, show to demonstration its insignificant character, and its speedy closure after the operation. Nothing could be more instructive than the phenomenon of the two streams of either the auxiliary fluid or the urine issuing simultaneously by both penis and wound; for this shows that the capacity of the prostatic portion of the canal is at least equal to that of both wound and urethra; and that the volume and pressure of the prostatic stream equals at least the volume and pressure of both the streams issuing from wound and penis. But in all cases, and this is wherein this operation claims the superiority over all other operations for removing large calculi entire from the bladder, as there is a solution of continuity of none of the vesical structures, walls, neck, nor prostate gland, micturition, whether performed by wound or penis remains a voluntary act. The most ignorant of human beings—those even who do not appreciate advantages until they are lost—recognise this as a stupendous consideration.

The patient left the hospital three days after the operation with thorough command over the functions of the bladder, passing his urine all by penis, and free from pain. The weight of the stone was seven and a half ounces, the removal of which shows the complete realization of the theory in the practice of lithotrity; and the full development of the art of removing the largest stone from the bladder without interfering with either its structure or function.

The modicum of success attending the methods above recorded is the ultimate standard, however, to which they are to be referred before they can be considered worthy to supersede time-honoured systems of operating. I herewith introduce, therefore, the accompanying Table which gives a general summary of the work in this department done by me in this hospital during the five years I have held charge of it.

Remarks on the Table:—Amongst lithotomies the first thing noticeable in the Table is the enormous difference in the percentage of mortality amongst adults in comparison with that of children; whereas, in the extension of the sphere of lithotrity, this contrast gradually but completely disappears. For of the two deaths which occurred amongst the 408 cases, operated upon since the 1st of January 1893, one was a young man about 20, and the other a female child about 5 years of age; so that lithotrity, from the Table seems to tend towards an equilibrium of mortality amongst all ages and both sexes. The greater mortality amongst adults during the lithotomy period is assignable to three principal causes: (1) The insanitary state of the hospital where erysipelas, or gangrene, or both, attacked almost every adult operated upon; and amongst old men sloughing of the scrotum was common. But I have never seen a child or boy under 15, attacked by erysipelas after lithotomy. I have noticed an healthy discharge from the wound and a little swelling of the lower part of the scrotum, but only for a day or two; and this condition in the child never resisted treatment as in the adult. The operation was just as well done in the adult as in the child or boy, and they were both placed afterwards under the same conditions; this immunity of children and boys under 15 must be, therefore, attributed to the fluids, which bathe the vigorously developing tissues, forming a complete antidote to parasitic life. Again, (2) lithotrity at first absorbed the most favourable cases, leaving the less favourable to lithotomy, still labouring under insanitary conditions. And, (3) the system of operating on all who come to hospital, under these conditions would no doubt contribute a certain percentage of deaths; for the weak and infirm would be theoretically less able to ward off contagion. With lithotrity, however, all this is changed. I have never seen erysipelas attack a case of lithotrity—either urethral or perineal. Its causes of mortality were suppression of urine and peritonitis arising from inferior instruments and my inexperience; for, when I at last succeeded in getting my new set of instruments out from home, I had as a set off, a break of a hundred cases without a death; and from the time (1891) when perineal lithotrity was introduced along with the other methods described above, mortality began to rapidly decrease, and as will be seen from referring to the table, to even almost disappear. At the end of last year a death occurred at case No. 569; and in July of this year another took place at case No. 970. Excluding from these, 15 females; there remained 386 males of all ages; if 172 children and boys under 15 be deducted; there remains a break of 214 adults, all operated upon in succession without a death; and amongst children and boys under 15, I have at present a break, including perineal lithotrities, of 338 still going on.

TABLE.—Showing By Statistical Figures:—

(1). The abandonment of the cutting operation. (2). The extension of the sphere of lithotrity. (3). The introduction of perineal lithotrity. (4). The comparative rates of mortality of the several operations.

	1889.			1890.			1891.			1892.			1893. (up to the end of July '93.)			Grand Total.		
	No.	Deaths.	Percentage.	No.	Deaths.	Percentage.	No.	Deaths.	Percentage.	No.	Deaths.	Percentage.	No.	Deaths.	Percentage.	No.	Deaths.	Percentage.
Lithotomy. Men ...	91	14	15·3	54	6	11·	15	5	33·	3	1	33·	...	...	...	163	26	15·9
Lithotomy. Children under 15 years	103	2	1·9	101	1	·9	...	...	...	...	...	...	...	..	...	204	3	1·4
Lithotomy. Women	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	194	16	8·2	155	7	4·6	15	5	33·	3	1	33·	...	...	...	367	29	7·8
Lithotrity Urethral. Men ...	11	2	18·	50	9	18·	50	5	10·	130	3	2·3	208	1	·48	449	20	4·4
Lithotrity Urethral. Women ...	5	...	...	11	...	...	6	...	...	12	...	...	15	1	7·1	49	1	2·
Lithotrity Urethral. Children under 15 years ...	...	...	...	...	...	...	165	2	1·2	186	2	1	152	...	...	503	4	·7
Total	16	2	18·	61	9	14·8	221	7	3·2	328	5	1·5	375	2	·5	1001	25	2·5
Lithotrity Perineal. Men ...	...	...	...	...	...	...	40	2	5·	7	1	14·	4	...	...	51	3	5·8
Lithotrity Perineal. Children ...	...	...	...	...	...	...	39	...	...	38	...	...	29	...	...	106	...	...
Total	...	...	...	...	...	...	79	2	2·5	45	1	2·2	33	...	...	157	3	1·9
Grand Total	210	18	8·5	216	16	7·4	315	14	4·4	376	7	1·8	408	2	·5	1525	57	3·7

The weight of the largest stones successfully removed by the above methods was—73 over one ounce; 17 over two ounces; 8 over three ounces; 3 over four ounces; and 1 over seven ounces.

A glance at the Table will show the success attending Keegan's extension of lithotrity to children and boys under 15. The number of operations performed on this class of patients by eight different Indian Surgeons is 663 with 18 deaths; the number performed by me as will be seen from the table is 503 with 4 deaths; giving a total of 1166 operations with 22 deaths, or 1·9 per cent; and if my 106 perineal lithotrities be added, I have done 609 operations with (4) four deaths.

There lie in lithotrity, therefore, an art and a potentiality inviting the enterprising Surgeon to cultivate the one and render practicable, with proper instrumentation, the possibilities of the other.

A FEW RECENT EXPERIMENTS WITH SNAKES, WITH TWO CASES OF SUPPOSED SNAKE BITE LOCALLY TREATED WITH SUCCESS.

By D. Robertson, w.m.o.,

Government-House Dispensary, Ootacamund.

No. 1.—A full grown bitch was bitten by a large *Cobra*, recently caught, on the back of right thigh at 2-45 p.m.

Ten minims of pure carbolic acid were at once injected just above the seat of the bite, and 5 ms: on each side of the chest.

The bitch appeared to be well for 10 minutes after being bitten, when it suddenly began to droop and fell down in a paralyzed state. It tried to get up several times, but was unable to do so. It died in a state of paralysis 25 minutes after being bitten.

With the exception of a fluid condition of the blood, there was nothing unusual observed in *post mortem* examination.

No. 2.—A half grown chicken was bitten on the under surface of its body by an *Echis Carinata* which had been caught three hours previously.

Five minims of liqour strychnine B. P., were at once injected near the seat of the bite. At about the end of 40 seconds, the chicken began to droop and defæcated twice in rapid succession, the fæces consisting of a large quantity of thin serous fluid. It soon became prostrate and died at the end of 5 minutes.

On opening the chicken, the muscles in the neighbourhood of the bite were considerably blackened by the action of the poison. The line demarcating the affected from the unaffected tissues was very striking.

No. 3.—A full grown rabbit was bitten on the back of the middle of the left ear by an *Echis Carinata*. This was the same snake which had bitten the chicken in the previous experiment. The bite was not so vigorous, owing to the snake being in a depressed state from confinement.

Thirty minims of liquor strychnine were immediately injected at the base of the left ear.

The rabbit after 4 minutes dropped into a convulsive fit, and after working in tetanic spasms, died 8 minutes after being bitten. I fear that in this case the rabbit died more from the effects of strychnine than snake poisoning. The

tissues for some distance around the seat of puncture were infiltrated with dark discolorations, the same as in the previous case. Both cavities of the heart contained dark liquid blood. The veins also contained the same.

No. 4.—A full grown pup was bitten by a large *Cobra* on the back of the right ear in a vigorous manner, the snake holding on to the dog. The bite was inflicted at 2-10 p.m.

Ten minims of liquor strychnine were at once injected hypodermically in the nape of the neck.

At 2-15.—10 minims more were injected

At 2-20.—Dog became suddenly dull, staggered and fell. It tried to eat some bread, but was unable to swallow it.

At 2-25.—Expired after becoming quite paralyzed.

A *post mortem* examination revealed nothing unusual.

Case No. I.—At about 8-30 p.m., on 15th November 1892, a syce came running to me in a great fright, saying that he was bitten by a snake about 20 seconds previously on the upper surface of the right great toe.

The man was entering a latrine in the dark, and while his foot was off the ground he felt something which darted and bit him on the toe. As the distance was about 80 yards to the dispensary the man lost scarcely any time in coming under treatment.

On examining the part I found two punctures about an inch apart, from which blood was oozing. These were at once opened out and the parts thoroughly washed with water, and aferwards freely destroyed with nitric acid. In the meanwhile I gave the man a good dose of brandy.

Finding no bad symptoms arising after the lapse of nearly two hours I sent the man home. He afterwards told me that he had kept awake the whole of that night from fear of dying in his sleep. No symptoms of snake poisoning occurred in this case.

Besides the punctures, there were no other indications to show that the man had been bitten by a snake. On a search being made, no snake was discovered in the latrine.

Case No. II.—A punkah cooly was bitten about 9 p. m., on 16th February 1893, on the inner side of the right instep by a supposed snake, which also escaped.

The man came almost immediately after being bitten. There were two punctures on the instep from which blood was flowing. The same treatment was adopted with similar results.

The man told me that feeling a sudden sharp pain in his foot he at once raised it from off the ground, drawing the snake along with it at the same time. He said that he distinctly felt the snake, which he immediately kicked away by a sudden jerk, the snake falling to the ground and escaping into an adjoining hedge.

Remarks.—If these were really cases of snake bite and were injected with a deadly quantity of poison, they clearly shew that good results are to be expected from early and prompt local treatment in such cases.

The following case of snake bite lately came under my notice.

A gardener about 35 years of age, while returning home about 7 in the evening accidently trod upon a snake, which bit him on the inner side of the right foot and escaped.

The man saw the snake escaping which had bitten him. After receiving the bite he walked about a mile to his house. It was nearly 12 o'clock that night before an ignorant villager from a neighbouring village could be procured to attend on him. The treatment consisted of smearing the part with freshly bruised leaves, and the performance of *munthrums* by means of neem leaves!

I was informed of this case early next morning, and went over and saw the man. He was dejected, spoke in a low, measured tone, gave me the above particulars of his case, and appeared to be much concerned about himself. His eyes were injected and expectoration frothy and tinged with blood. A slight wound on the back of his left forearm bled occasionally. There were two punctures on his right foot, the foot and lower half of the right leg were swollen.

The man soon recovered and resumed his occupation.

Remarks—I think the bite was caused by an *Echis*, which is not so deadly as a *Bungarus*. If this case had been treated by strychnine, recovery would naturally be put down to its good effects in such cases.

Lately a *Cobra* took up its abode in the hollow trunk of a tree and could not be dislodged, although various means were tried. As a last resource I poured in about two tumblers of kerosine oil, and then set it on fire by introducing a lighted torch. This had the desired effect, for a *Cobra* soon came wriggling out through the flames. A subsequent trial of the same kind also proved effectual in dislodging another *Cobra*. As this method may assist others I am induced to publish it.

INDIGENOUS DRUGS—
AN APPEAL TO MEDICAL PRACTITIONERS IN INDIA.

By R. P. Banerjee, B.A., G.B.M.S.L.
Pachbadra, Rajputana.

I have from time to time been able to test the efficacy of a few indigenous drugs of India, and though many are very useful, and success is to be attained by a proper and judicious administration of many of them, yet they find very few adherents. Practitioners here generally use imported drugs, which so often become worthless under the influence of the varying climates of India.

The days of Ainslie, Haines, Royal, Dimmock and others are gone, and since then very few attempts have been made to test the indigenous drugs of India, and give them a fair trial, and the place they may deserve in the pharmacopœia. Experts have acheived much by investigating the etiology of diseases so common in India, but it is very unfortunate that no cheap remedies are understoood, although really, they are easily procurable by the poorer populations.

Excepting in a few instances the Europeans can do very little in this direction, as any attempt requires an acquaintance with Sanscrit, Persian and also with Arabic works on medi-

cine. I would therefore appeal to my countrymen, or at least to those of them who have a fair practice and possess some knowledge of Sanskrit, to take up the work, and enlighten the profession in general by their researches and experiments. Sometime ago, Dr. B. D. Basu invited the attention of the profession in the pages of the *Indian Medical Gazette* to this subject, but evidently with no results. Mine have been poor attempts, and I wish some abler hands would come forward and take up the subject. Indian Pharmacology is replete with drugs, and many would be useful if properly tested and their efficacy established by a series of trials, experiments, and clinical research.

Many of the graduates of our medical colleges occupy influential posts, and are competent in medicine, and, if not all, at least many of them know Sanskrit, and other languages too; so, instead of sticking at matters of original research, such as to investigate the causes and pathology of certain diseases, which they could not claim a superiority over, on account of not having sufficient means at their disposal, they could better labour to enrich the pharmacology of their country, which really lacks no substance. Here I would safely mention, that very lately cobra poison has been innovated as a remedy in cholera, though not sufficiently tried, it is not a new one, though the Western medicos have independently worked out the problem unaided. Still, on referring to old books in Hindoo Pharmacology, it will be seen that cobra poison has been put down as the treatment for the delirium of typhoid and remittent fevers or in the stage of *sannipat*, and I can multiply instances of this kind. By the valued labours of a few men, only a very few drugs were tested as to their efficacy, but even they were soon forgotten and excluded.

I would appeal to Native workers to come forward and work up the problem, to restore and establish the efficacy of the indigenous drugs, which enjoyed a high repu tation and were once wafted over to Egypt and Greece. This land of Dhanantri lacks no drugs, and not less so than the land of Hippocrates; but it does lack good, persevering, working men. Close study of indigenous drugs has always been crowned with success, and so it has been with the greatest of the remedies of the world,—quinine and a dozen others. Natives of Bengal who form a great part of the medical practitioners in Bengal and upper India, will do well if they devote themselves to the subject under consideration and work it out faithfully.

Talking with a member of the Indian Medical Service, I was told that when he was in London and paid a visit to the Museum of the Pharmaceutical Society of England the Secretary asked him if he could identify the indigenous drugs collected there, to which the medical man could only reply in the negative, because when in India he did not care to be acquainted with them. Indeed, it is impossible for the European section of medical men in India to do so, they can only gather information generally from very ignorant persons or a *pansaree*. Therefore, even in London the indigenous drugs of India are little known, save in collection. It will be a real good to work up this department, and with Native practitioners it will be a very easy task. It only requires perseverence and patience.

A Mirror of Practice.

A CASE OF PYÆMIA, AND DEATH FROM CARDIAC THROMBOSIS.

By Surgeon-Captain B. D. Basu, I.M.S.,
Ahmedabad.

In a recent issue of the *British Medical Journal*, Sir Joseph Fayrer has recorded several cases of death due to "Cardiac Thrombosis" which occurred in his practice in this country. The following case of death from cardiac thrombosis occurred in the case of a sepoy of the 17th Bombay Infantry, while I was in charge of that Regiment.

No. 406 Pte. Medha, Gujar, *aet*: 23, admitted into hospital on the 5th September 1892, for phimosis due to syphilitic ulceration. The operation of circumcision was performed and the sore dressed antiseptically. Under treatment he was improving and the sore was also healing.

30th October 1892.—This morning the patient had shivering fits with a rise of temperature, 105°F; diaphoretics and antiperiodics prescribed.

31st October 1892.—The temperature last evening was 102·8°F, but it is normal this morning. He appears a little better. Quinine prescribed.

1st November 1892.—His temperature again went up last evening to 102°F, but it is 101°F, this morning.

2nd November 1892.—His temperature last evening was 102°F, but it is normal this morning. He complains of cough. Physical exmination of the chest only revealed signs of bronchitis. Quinine and expectorants prescribed.

3rd November 1892.—Last evening temperature was 100·6°F. This morning it is 99·4°F. He fell down this morning and sprained his left ankle joint; complains of much pain in it. Arnica lotion applied.

4th November 1892.—Last evening the temperature rose up to 101·6°F. It is normal this morning; complains of a great deal of pain in the left ankle which is much swollen. There is still cough.

5th November 1892.—Temperature went up last evening to 100·6°F. At 10 P. M., his symptoms suddenly changed for the worse. He became unconscious, and his breathing labored and sterterous. The action of the heart was at first rapid, then became irregular. He sank rapidly and died *this morning* at 2-30 A.M.

Post mortem examination 6 hours after death.—Body much emaciated, slight *p. m.* rigidity. No *post-mortem* lividity. Secondary syphilitic eruptions on the body. Swelling of left ankle joint.

(a) Heart.—Increased quantity of clear serous fluid in pericardium, some deposit of fat on the external surface of heart.

Right side.—An ante-mortem buff-coloured clot in both auricles and ventricles, firmly adherent to the substance of the heart, and extending into the vessels.

Left side.—Ante-mortem clot in the left ventricle.

(b) Lungs.—Right Lung. Pleura adherent to the lung on the diaphragmatic surface. The inferior lobe of the lung congested, and on section frothy fluid escaped. *Left lung*, somewhat congested, otherwise normal.

(c) Liver.—Enlarged, protruding downwards, gall bladder distended with bile; on section presented nutmeg-coloured appearance.

(d) Spleen.—Enlarged, otherwise normal.

(e) Kidneys.—Both normal.

(f) Stomach and *Intestines.*—Normal.

(g) Brain.—About 4 ozs. of cerebral fluid at base. Considerable venous congestion. On the base of the cerebrum and cerebellum several small hæmorrhagic patches of the size of a pin head, otherwise brain substance normal.

(h) Joints.—(I) *Left ankle.* Effusion of serous fluid and blood outside the joint into the connective tissue, and pus about 8 ozs. inside the joint. (II) Right and left knees:—Contained pus inside the joints, about 2 ozs. in each. (III) Right elbow contained pus inside the joint, about 1½ oz.

Remarks.—In this case pyæmia brought about cardiac thrombosis. But it is somewhat difficult to account for the occurrence of pyæmia, especially when the syphilitic sore on the penis had nearly healed under treatment, and the wound of the circumcision was also getting better. I am inclined to believe that the injury to the left ankle joint, although slight, was in this patient, whose health was below par at the time of the injury, sufficient to operate as a cause of pyæmia.

ABNORMALITIES IN THE URINE OF A PREGNANT FEMALE.

By Naresh Chandra Mittra, M.A. M.B.,
Ranchi.

The urine of a pregnant multipara in her sixth month, was sent to me for exmination, as it resembled blood in color. On exmination, the urine had a sp. gr. of 1010, reaction acid. On settling deposits formed. On heating the color disappeared, and some precipitate formed on addition of *nitric acid.* When cold it changed to a straw color and the urine deposited some precipitate. No change on addition of *ammonia* or *liquor potassæ.* I thought the deposits to be urates, but there was no doubt of there being albumen. On enquiry, I learnt that the patient was weak in health, but she had no fever, neither was there any puffiness of the face or any œdematous swelling of the lower extremities. I prescribed a diuretic mixture with iron. A month after, a specimen of the urine passed in the morning was sent to me. It was straw colored; on heating it there was no deposit or precipitate. A week later, the urine was of an intensely red color. It was of the color of blood. To be exact, I wished to confirm my diagnosis by chemically testing the urine. As there was no microscope available, I was left to no other tests; moreover, no *guaiacum* resin could be had, so that all the remaining chemical tests were applied. Heating decolorized the urine and a precipitate formed. *Ammonia* and *potassæ* produced no change. Addition of *nitric acid* helped a precipitate. From the physical and chemical examination thus conducted, one is led to no other conclusion than that the specimen contained blood. But, subsequently, I was not certain about my result from examination of the urine at a later stage. The urine was found to form a reddish colored deposit in 6 hours, and on shaking the test tube, the urine regained an uniform red color. What struck me as peculiar was, that it was impossible with a solution of blood to form such a deposit. With this end in view, I made a solution of blood, and allowed it to remain in a test tube undisturbed for some hours, but to my astonishment, no deposit formed. Granting the specimen of the urine contained blood, the reddish colored deposits could not be anything but blood coagula; but whether coagula mix up so uniformly with liquid so as to give it an uniform tint, is a point which I could not clear from the experiment performed. A subsequent exmination of the urine showed that the red tint had entirely disappeared, but that the addition of nitric acid formed a deposit. Sometimes the woman passed urine which gave no precipitate with nitric acid. During the latter months of pregnancy she improved in health, and the urine passed was of a lighter color. As her friends apprehended difficult labor, I was sent for in haste at the very commencement of it. By night she was delivered safely of a child, and the *puerperium* was also passed without a hitch.

Remarks.—This is quite a peculiar case. Admitting that the urine contained blood, it has to be found out which was the site of the hæmorrhage. And further, at times the blood disappeared completely as shewn by the color of the urine, and the absence of any deposit as tested by chemicals. I enquired whether there was any discharge from the vagina, and as there was none, I was led to no other conclusion but that the blood came from the kidneys or the bladder. It is quite possible that the case would have assumed a darker aspect had the blood been due to derangements of the kidneys, so that the case must have been one of intermittent hæmaturia from the bladder, which must have been in a state of congestion from pressure or otherwise of the gravid uterus. And further, how one is puzzled about the chemical testing of blood.

I publish this case with the hope that the readers of the *Medical Reporter*, might throw some light upon its diagnosis and pathology.

FRACTURE OF THE SKULL WITH EXPOSURE OF THE BRAIN: TREATMENT: RECOVERY.

By R. S. Poredi, L.M.S.,
State Medical Officer,
Akalkote, Deccan.

About 8 A. M. on the 11th of April last year, I was desired to attend upon a person said to have been dangerously wounded

on the preceding evening with a sword, by an assailant who struck him from behind by surprise, inflicting a deep, long, incised lateral scalp-wound on the left side. This occurred at his village, some 9 miles off.

On getting to the place about 10-30, a. m., I found the wounded person lying on his back, with his head wrapped up in a cloth. Examination of the surrounding objects disclosed the occurrence of free hæmorrhage, arterial and venous, whilst the condition of the patient confirmed it. His hands, feet, front of chest, neck and head, were all covered with blood. The shock of the accident was great, from which he was just coming round. Temp: 99·8; pulse 108, weak and quick. Had hardly strength enough to talk, but was quite conscious. Pupils normal. On removing the cloth, a ghastly wound was seen, extending from the junction of the zygomatic process with the malar anteriorly, to behind the mastoid process posteriorly, measuring over 4 inches in length. Being a slanting side blow, the upper margin of the wound was intact, while the lower one, which carried with it all the muscular attachments, as the whole force of violence fell on it, was a good deal detached from the bone, leaving open a large denuded, bony surface, all along its length. Further, as it was dealt from behind, the protuberant mass of the mastoid, was the first to come in touch with the edge of the sword, and was subjected to the greatest stress. The wound was consequently deeper and wider there, and went on tapering towards its anterior extremity. At the back end, its width was quite 2 inches; over the external ear about 1 inch, and in front nearly ½ inch. Its depth posteriorly was 2 inches getting superficial towards the other end. The whole of the mastoid process with a little of the surrounding bone was cleanly cut through, exposing the brain with its membranes unhurt, to the extent of an eight-anna piece. This bony mass was firmly imbedded in the muscular substance of the posterior ⅓ of the lower flap; the pinna of the external ear was borne by its middle third, whilst the anterior third carried the zygomatic process. The wound was entirely bloodless when I saw the patient, having bled profusely during the night.

Treatment:— A dose of *mist: stimulans* having been administered, the dark blood clots in the posterior hollow were removed and the wound cleanly washed with hyd. perch. lotion, 1 in 2000. As he was seen some 15 hours after the incident (during which interval cold water was freely employed by the villagers to check bleeding), the wound surface had got quite hard, dry and stiff, rendering any effort at approximating the edges, intensely painful to the sufferer. I therefore decided to treat it as an open wound until the parts had regained their natural elasticity and vitatity, in other words until inflammatory activity had begun therein. Lint soaked in H. P. lotion was ordered to be put on the wound surface and kept wet constantly. *Mist: stimulans* continued every 4th hour, and liquid nourishing diet ordered. After doing all this, I left the village and returned to the dispensary, leaving instructions to bring over the patient to the hospital on a stretcher. He was brought late at night. I saw him about 11-30 p. m., and found that he had no rise of temperature and that his pulse was improving. The next morning, the frequency of *mist: stimulans* was lessened, as signs of returning vitality became manifest. Was given *mist: strychnia cum ferri* twice a day in addition. The temp. kept within moderate limits, having rarely gone above 100°. Pulse also gained in volume and strength day by day. It was now 84 per minute. But for nearly a week, there were no signs of active inflammation. On the 3rd day, the front half of the lower flap was drawn over to the upper margin of the wound by strips of plaster and the whole of the lower flap supported by a pad and bandage. From a collection of putrid matter over the meninges, the back part of the wound was fœtid on the 15th, when it was freely irrigated with H. P. lotion, and water dressing continued. The edges of the wound were ordered to be shaved on the 17th, as the patient had considerably rallied by this time, and inflammation also had begun. On the 9th, the front half was closed up by passing 3 silver wire sutures, and the rest of it kept open as before, as the resistance of the parts was still considerable, and as pus was also forming over the dura-mater in the posterior hollow. Iodoform and H. P. lint was now substituted for the water dressing, and the support of the pad continued.

All went well under this treatment, so that by the 26th the front half healed up and the back portion also began to granulate; the exposed coverings of the brain were no longer visible now, being covered over by granulations.

On the 4th of May, a 4th suture was passed over the external ear, leaving the posterior third still open for free drainage. The breach in the skull, caused by the separation of the mastoid was bridged over by formation of new material (bony or fibrous, it is difficult to say with precision), whereas the mastoid itself kept to its new position. As it was perfectly vascular and showed no signs of necrosis, I allowed it to remain where it was.

By the 18th of May, even the ununited posterior third of the lower fragment was coming up gradually to meet its fellow on the opposite side, under the continued and steady pressure of the pad. At first I had intended suturing it after the breach of bony surface was repaired; but as it yielded in time to the pad pressure, I saw no necessity of doing so.

On the 19th, the first 3 sutures were removed, as the front half of the wound had healed up. By the 8th of June, the rest of the wound also closed up, leaving a small opening about ⅛ of an inch just a little behind the pinna. As the man got impatient to get home, he was discharged the next day, stouter and stronger than he was before the accident. He came back in a week's time, as desired, when the 4th suture was removed. Since then, he has never showed himself to me, although I hear that he is perfectly well.

Remarks:—The treatment adopted was extremely simple, and the result satisfactory. Throughout the case there were no complications—such as meningitis, encephalitis, or erysipelas; nor, was there any great rise of temperature, although one would have expected any one of them, having regard to the magnitude of the wound.

OUT-DOOR MIDWIFERY FORCEPS CASE.

By Naresh Chandra Mittra, M.A., M.B.,
Charitable Dispensary, Ranchi.

One Sunday I received information that a poor female was in labor, and that the midwife in attendance wished me to see her On my arrival I saw the patient, a multipara, still in her teens—learnt that she had been in labor for the last 36 hours, and that the waters had escaped 10 hours previous to my visit. She was in great agony, with a weak fluttering pulse. On enquiry from the midwife I ascertained that the head was presenting, the os dilated to the fullest extent, pains strong, but no progress in the labor. As it was useless temporizing, I sent for the midwifery box and chloroform. Hospital Assistant N. Ahmed kindly administered chloroform. Complete anæsthesia having been secured, I examined the private parts. The labiæ were enormously swollen. On introducing my fingers I found the head high up. Great difficulty was experienced in introducing the forceps owing to the high position in which the head was fixed, and to the swollen and inflamed part from pressure of the fœtal head: and finally when they were introduced, they would not lock into each other. This being done the handle outside the vagina was not long enough to allow a firm grip of it. So in great despair I had to take off the blades and to send for a pair of Barnes' forceps. It was some time before I could introduce them and lock the blades. Having done so, I commenced applying force gently to extract the child. This being of no avail, I gradually used all my force, but to no purpose. It seemed that the fœtal head was firmly impacted, and all the force I had used did not move the head in the slightest degree. Failing in my repeated attempts and feeling quite exhausted, I asked Civil Hospital Assistant M. C. Das to try if he could do anything. He took hold of the handles and applied his full force, but the head remained fixed as ever. It seemed that there was a disproportion between the pelvic diameters and the fœtal head, and I thought of effecting delivery by craniotomy or evisceration, but before having recourse to such a procedure, we rested for a while, and for the last an attempt was made by dragging upon the handles when, the head gradually descended and delivery was effected. I forgot to mention that the *funis* had prolapsed long before our arrival. The *funis* was quite cold, and no pulsation was felt. So, as expected, it was a dead fœtus. There was not much hæmorrhage. Owing to the weak state of the pulse a dose of stimulant was ordered. She was under chloroform for 2 hours, and an ounce and half was used.

She passed no water for about 24 hours after delivery, and a catheter had to be passed to relieve the bladder. An attack of diarrhœa made matters worse, but assiduous care and proper treatment continued for a fortnight warded off all danger, and she made an excellent recovery.

Remarks:—It is quite certain that the patient would have succumbed had we not been called in. The case proves that if persevered in, even the worst cases may be terminated successfully by forceps or turning, and we are thus spared the horrible task of mutilation.

A CASE OF PURPURA HÆMORRHAGICA.

By A. P. Dass, L.M.S.
Late House Physician, Chandni Hospital,

I was sent for to see a Hindu lady, aged 20 years, on the 3rd of June 1893, suffering from profuse hæmorrhage from her womb, mouth, and gums, with bloody urine, twenty days after delivery. She had no fever.

Previous History.—She had an easy confinement, this being her second child. Four days after her confinement she got fever of a remittent type which troubled her about a week, and was checked by large doses of quinine.

On the 20th day after her confinement she complained of weakness, dizzy sensation in her head, feeling sick and faint, and a suppressed sensation in her chest. She believed she was going to die. Blood was freely flowing from her womb and vagina, her urine was bloody with a few small blood clots, black grumous blood was coming freely out of her mouth and gums, with dribbling of saliva.

On examination I found her gums full of blood clots. The uterus was distended with a large blood clot which could be felt through the abdomen and vagina. The os was thin and dilated, and a blood clot was felt occupying the cavity and os. There was no suspicion of retained placenta as there was no hæmorrhage for 20 days. There was retention of urine, and on drawing it off it was found to consist of blood and water with 3 or 4 clots. Pulse weak and feeble, 130; temperature subnormal; bowels constipated with inclination to vomit; bruit with the 1st sound of the heart at the base; hæmorrhagic spots under the skin all over the body; tongue flabby and white, but here and there hæmorrhagic spots and sores; conjunctivæ pale. There was a slight tenderness over the liver. No hæmoptysis, hæmetemesis, or melæna. There was slight œdema of both feet; false noise in both ears; thirst excessive, a constant inclination to vomit; cramps in the hand and legs.

I prescribed the following for her—acid sulphuric arom: ℥ viii, hazeline ʒ i, ext. ergot liquid ℥ xx, tinct: digitalis ℥ iv, syrup auranti ʒ ss, aqua puræ ad ℥ i. M. Ft. mist, every 2 hours.

Brand's essence of chicken, one tin in 24 hours, with a seer and half of milk. All nourishment to be given with ice, and ice to be kept constantly in the mouth.

This treatment was continued for about 36 hours with very slight effects, so I prescribed tinct: steel 30 drops thrice a day, and 40 drops with 2 ounces of *cold water* as a gargle, as well as the other mixture every 2 hours.

After 36 hours the blood began to lessen, the urine became clear and only a little blood was oozing from her womb, but a large blood clot occupied its cavity which was very offensive.

Condy's fluid, a teaspoonful diluted with a pint of cold water, was injected for 2 days; and the same mixture and steel drops were continued. On the 5th day from the commencement of the treatment, the hæmorrhage had entirely stopped. The blood clot which was in the cavity of the womb came out without any secondary hæmorrhage. On the 11th of June *i.e.*, a weak after I commenced treatment, she was in a

Late D. Bandaji of Bombay

convalescent state, and I prescribed—acid nitro-mur. dil ℥ v, liq. arsenicalis hydrochl ℥ iiss, tinct. steel ℥ xx, tinct. digital ℥ iv, aqua puræ ad ℥ i. Thrice daily.

Remarks.—This case is of interest on account of the free and profuse hæmorrhage from the mucous membrane of the mouth, gums, uterus, vagina, and bladder; and the sudden onset of the symptoms which were due to poverty of blood, caused 1stly—by ill-health from diarrhœa during the whole period of pregnancy, 2ndly—by confinement, 3rdly—by the fever which followed after child-birth.

Our Portrait Gallery.

INDIAN MEDICAL CELEBRITIES.

By Surgeon-Captain B. D. Basu, I. M. S.

II. Dr. Bhau Daji, G.G.M.C.

In the fifties and sixties no one from amidst the members of the healing art was so well known to the Bombay public, as the subject of this sketch. His reputation was not only that of a Physician, but also that of an Orientalist and Antiquarian. He is better known to the literary public of Europe by his researches in the literature and antiquites of India, than as a medical man. But, as a medical practitioner, he had hardly any rival in Bombay in his time.

Bhau Daji was born about 1825, in Manjaran, a village in the District of Sawantwadi. Though of poor parentage, he belonged to the intellectual aristocracy of India. He was a Maratha-Brahman, and true to the traditions of his caste and race he showed great bias towards learning at an early age. In those days, there was only one institution in Bombay where English was taught. It was the school established by the Bombay Education Society. Here Bhau Daji was placed by his parents. While a student in this institution, he wrote his famous essay on Infanticide, which won for him the Government of Bombay prize.

Leaving the school he served for some time as a teacher in the Elphinstone Native Institution, and then, on 1st November 1845, joined the Grant Medical College, which had then recently been established in Bombay. With his characteristic zeal and industry, he soon came to the front, and was successful in winning the different prizes, scholarships and medals of the College, year after year. All the Professors were very favourably impressed by him, especially Dr. Morehead, the then Principal of the College. On 5th April 1851, he obtained the diploma as G.G.M.C., (Graduate Grant Medical College) the highest degree that was obtainable in those days in medicine in this country. He was appointed as a Sub-Assistant-Surgeon in the Bombay Medical Establishment, but he shortly afterwards resigned this, and set up in Bombay as a practitioner. It was not long before he established a reputation as a skilful physician, and soon came to be recognised as one of the foremost practitioners of Bombay. The rich and the poor alike benefitted from his skill and advice, and for the latter class of people he established a dispensary where medicine was given *gratis*.

When settled in practice, he turned his attention to the system of medicine practised by Hindoo physicians. As a Brahmin, and as a Sanskrit scholar, he did not find much difficulty in mastering the contents of *Charaka*, *Sushruta*, *Vagbhatta* and other Sanskrit writers. One who had been initiated into the Anatomy and Physiology of Harvey and Hunter, of Munro and Sylvester, had very little to learn from the medical sages of Aryavarta in Pathology. But his mind possessed a peculiarly discursive faculty. He was always on the watch for something to levy contributions on. Few things therefore escaped him. He soon found out how to put to use his knowledge of Hindoo medicine. Very few before him ever thought of adapting to such purposes their knowledge of the subject as he had in view. There are several indigenous drugs mentioned by Sanskrit authors, whose properties and uses have not up to this day been carefully examined. To find out their properties he experimented with them. That he was successful in his attempt to utilize indigenous drugs is evident from the fact of the large practice he commanded, and the confidence of all classes of people he enjoyed in regard to his professional ability. But, it is a pity that he has left no record of the drugs he employed, and whose remedial properties he ascertained. It is much to be regretted that therapeutical science has not been benefitted by his researches, and his enlightened countrymen truly lament this. Had the papers containing notes of cases, which he left with his executors, been published, what a flood of light they would have thrown on the therapeutics of some of the indigenous drugs. It is gratifying however, that at last the secret of his success in one of the most loathsome diseases which flesh is heir to, has become known. Dr. Morehead was a diligent student of the prevalent diseases of this country. His works bear strong testimony to the labors of several years in the field of tropical diseases. In Bhau Daji he discovered a man who would do credit to the profession, and contribute materially to its advancement, if he (Bhau Daji) continued to manifest the same interest in the profession which distinguished his college career. Accordingly, Dr. Morehead induced Bhau Daji to take up the study of leprosy. The confidence of Dr. Morehead was not misplaced. Bhau Daji took up the subject in right earnest. His reputation attracted hundreds of lepers. He experimented with the *Materia Medica* laid down for the treatment of leprosy by medical authors of ancient and modern times. At length, he discovered a remedy which he kept secret from the profession. His motives in so doing were questioned. Some denounced him as a quack. The *Lancet*, in those days the leading and the most influential medical journal of the English speaking world, wrote that not one of Bhau Daji's cures had been satisfactorily proved. At this distance of time, when all prejudice and animosity against Bhau Daji have died away, a calm judgment on the course he pursued can be easily passed. That he had no intention to make money by his remedy, is proved by the fact that 99 out of 100 lepers were generally

paupers, whom he not only treated *gratis*, but also maintained out of his pockets. It is further proved by the fact that he did not patent his medicine and advertise it for sale like Holloway's pills and ointment. That he was collecting materials and getting illustrations prepared, to elucidate the pathology and treatment of leprosy, goes to prove that he had no intention to keep the treatment of the disease a secret to the profession. We, who have witnessed the tuberculosis-cure farce of Koch, should certainly credit Bhau Daji with great foresight, and applaud the intention which prompted him to adopt the course he pursued. He had used several remedies in the treatment of lepers, and one by one he gave them up as useless, and he was by no means so sanguine that the last one he discovered would answer his purpose in all cases of leprosy. Hence the desire to keep the secret of his treatment.

On his death, which took place from apoplexy on the 29th of May 1874, people naturally concluded that the secret of the leprosy cure died with him. But, nearly twenty years after his death, his mode of treatment has been made public by Mr. Stanley Boyd, Assistant-Surgeon to Charing-Cross Hospital, London. The *Times of India*, for 1st August 1893, has published the substance of Mr. Stanley Boyd's article on Bhau Daji's method of leprosy cure. The following extract shows that Bhau Daji was anxious to let the profession know his method of treatment :—

"During his fatal illness in the hot weather of 1874, he expressed much anxiety that his papers and notes of cases should be collected and got ready for publication, but for some unexplained reason this was never done.* He had told the secret however, to three European friends in confidence. After his death two of these gentlemen held that the condition was binding, but the third, a well known Judge, after enquiring from Bhau Daji's children, as well as his executors, if they had any objection to making the remedy known, placed it eventually in the hands of Dr. Stanley Boyd. For a long time, Dr. Boyd did nothing in the matter, feeling that after so long an interval, and without living proofs of any kind, the communication of the remedy would achieve no good object. Quite recently, however, he had the good fortune to discover one of Bhau Daji's old patients, once an undoubted leper, but now to all appearance wholly free from the taint; and to receive from Colonel Wilson, the Commissioner of Police, some valuable information concerning two other patients. Dr. Boyd gives the names and addresses of these and some other patients in Bombay, so that there should be no difficulty in pursuing the investigation ; and no doubt others will be willing enough to come forward in so excellent a cause. It will be of more immediate interest to our readers, perhaps, to recount Bhau Daji's remedy and the method of its application. After many experiments, it seems, Bhau Daji came ultimately to rely upon one substance—the oil of the *Hydnocarpus inebrians*,‡ known among the natives as *kauti*—which he used both for internal and external administration. Sometimes he coloured the oil to render it less easily recognizable. In the early morning minims x—½ ounce of the oil was taken in boiled milk, and it is said to be "not bad to the taste" ; then the patient was rubbed all over with the oil ; after two hours the oil was washed off in a warm bath. Sometimes, says Dr. Boyd, the oil was directed to be applied again, and kept on until evening, when the patient wiped himself and went for a walk until he perspired ; in other cases no oil was applied after the warm bath until evening, when it was again rubbed in over the whole body, and the patient slept in it. The oil was applied also to affected mucous surfaces, and was to be run into the nasal cavities. The patients were ordered to abstain from pork, beef, and fish ; from all alcoholic drinks, tea, and coffee ; they were allowed as much milk, fruit, and vegetables as they liked ; also butter, eggs, mutton, and fowl. This was the whole secret of Bhau Daji's treatment."

As said before, Bhau Daji was better known to the world as an Oriental scholar than as a Physician. On the banks of the Ganges, of the Rhine, of the Seine, and of the Thames, there is not a single Orientalist who is not acquainted with, or does not estimate at their true value, the literary and antiquarian researches of Bhau Daji. It is out of place however to refer to them here.

Even before the days of the mutiny, Bhau Daji was so well-known, that on the establishment of the University of Bombay, the Act incorporating the University mentioned his name amongst the original Fellows. He took great interest in female education. He was a zealous promoter of every cause—social, political, educational, moral—which was calculated to ameliorate the condition of his countrymen. The services which he rendered to the public were so distinguished and conspicuous that the Government, in recognition of them, twice made him Sheriff of Bombay. For his researches in the literature and antiquities of India, the Royal Asiatic Society of Great Britain and Ireland, conferred on him an Honorary Membership of their distinguished body. To the student of the Economic Products of India, his name has been made familiar by Sir George Birdwood, naming a plant after him. *Boswellia Bhau Dajiana*—one of those plants which yield the Frankincense or Olibanum of commerce is called after the distinguished subject of this sketch. In this respect, he stands alone amongst his countrymen. No other native of India has won such scientific honor. In Bhau Daji, Bombay was once proud to possess a man of many-sided talents, a reputed master of the healing art, an Orientalist and Archæologist of world-wide fame, one whose private character was exemplary and beyond any reproach, and a citizen who tried his best to promote the welfare of his fellow-subjects. His memory will ever remain to the credit of Bombay.

* The writer believes that these papers were indiscriminately sold together with his splendid library, on Dr. Bhau Daji's death, and thus the profession of this country have been deprived of the results of the labor of one of their most distinguished members.

‡ The scientific name of this plant has been changed to *Hydnocarpus Wightiana*. A botanical description of this plant will be found in Hooker's Flora of British India, Vol I, page 196. This is a common plant in the Western Peninsula. In Watt's Dictionary of the Economic Products of India, the uses of the oil are described in detail.

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The Medical Reporter.

CALCUTTA: OCTOBER 1st, 1893.

The Resolution of the Government of Bombay, dated the 15th of August 1893, in connection with the additional Professorship of Clinical Medicine in the Grant Medical College, is before us, as also a letter by Dr. Balachandra Krishna published in the *Times of India*, in its issue of August 28th, both of which we have very carefully perused. This additional Chair we learn was created specially by Lord Reay, and was liberally endowed by His Highness the Gaekwar of Baroda. The appointment which was thrown open amidst much opposition, was never expected to remain an open preserve, and the fears of the local profession in Bombay have been realized by the Resolution referred to. The Chair was the only one occupied by a leading unofficial doctor, and its abolition (in the face of the liberal offer of Mr. Framji J. Petit to meet its entire cost, and that of Dr. Bhadurji to continue at the work without remuneration) on the recommendation of the Surgeon-General has been the means of providing only for the existence of those posts held by covenanted surgeons. The spirit of such a recommendation at a time like the present needs no reading between lines to detect, for it is nothing more than an attempt to keep out unofficial men from appointments to which they have every claim.

The recommendations advanced by the Surgeon-General are absurd in the extreme, and cannot bear even ordinary examination. The Professorship, the Surgeon-General thinks, should be held by a man well versed and skilled in research work; he should be a selected graduate sent home for two years for special instruction, and he should be prohibited entirely from private practice. It is further urged that the present Professor of Medicine is already Professor of Clinical Medicine. We ask in all seriousness what does all this look like? How many of our "Service Professors" are debarred from private practice? How many are sent home for special instructions? The answer is—NONE.

That such a Chair was and is absolutely necessary very few will deny. Dr. Bhadurji who has held the post for some time has given entire satisfaction, and is specially qualified for this kind of work. Besides being an M. D., of the London University, he has undergone special training in Clinical Medicine and Pharmacology both in England and Germany, and his skill has been acknowledged by such known scientists as Liebrech, Roberts, and Dr. Lindsay Stevens. That such a man, especially when he so very liberally offered to continue his services without remuneration, should have been treated in this openly outrageous manner, by an enlightened Government, is to say the least open to very grave and serious objection, but it is only another instance of the present policy to keep out the Indians.

If we are to judge from the record of the services of the Surgeon-General, which may have been very valuable in their particular way to the Government, we find that he was never a member of the teaching staff or in any way connected with any of our Medical Colleges, and we are therefore unwillingly forced to say that we do not think the Government of Bombay is justified in accepting his verdict of what the requirements of a teacher of Clinical Medicine and Pharmacology should be, or as to whether the Professorship is necessary or not. We emphatically protest against this recommendation, and would in the name of justice call upon the Government of Bombay to reconsider its Resolution

We would here mention that it is thought necessary to have more than half a dozen Professors of Clinical Medicine in each of the English and Scotch Schools. Would the Surgeon General if he had authority over these institutions abolish all these Professorships, and expect the Professor of Medicine, as he implies in the present instance, to do the clinical teaching also? No! we hardly think so. If not so in England, why in India? and as we are aiming at the same standard of education out here, and have taken the Europeon teaching institutions as our model, we should work as much as possible on the same principles. The number of these accessory posts should certainly be increased, and Government should have an opportunity of giving them away to deserving local men. There was a time when India was compelled to depend on Europe for her medical men to occupy absolutely the different posts in all her teaching institutions; but now, after almost over half a century of the establishment of these institutions, there must be surely men capable of at least taking up a part of the teaching. If it is not so, it speaks very badly for the teachers. That there are such men is illustrated by the case of Dr. Bhadurji—and his case is not a singular one. Why then should not the Government open out a channel for the legitimate aspirations of capable and deserving local men, by increasing the teaching staff in our various Colleges and Schools?

We feel very strongly in this matter. Local medical men in India have for some time borne with much patience the attitude of the Government towards them, and the present instance is one of many official attempts to throw cold water over the just aspirations of deserving outside men to keep them out of positions to which their claims cannot be gainsaid. It looks very much like coercing men to be educated, and then branding them with incompetency. There is no other country which

does not admit its own graduates and old pupils to its teaching staff—peculiarly, this is the case only with the Medical Faculty in this country.

This is one of the many grievances under which medical practitioners in India are labouring, but as our object is at present to draw the attention of Government to the subject under consideration, we will reserve what else we have to say for a future occasion.

Pessimism we deprecate; yet we are more than painfully surprised to learn from the Calcutta Administration Report of 1892 (which Report has just been published), that out of 319 cases of infantile tetanus, 249 were traced to the insanitary condition of the lying-in-rooms and their surroundings, and that 12,022 of the 20,180 deaths that occurred last year, were mainly due to *preventible* causes, such as cholera, diarrhœa, dysentery, small-pox, and fevers of various types.

Is the Health Officer in any way to blame for not taking measures against the inroad of preventible diseases? No! certainly not. The din has not yet subsided of the clamour raised against him, when finding all other means fail to convince the majority of the population that "cleanliness is next to Godliness" he fittingly referred to the Northern portion of the town being "in almost a worse state than an African village." He justly complained that he was powerless to remedy the evil, or do any real good if his hands were tied down, and he compelled to work with the insufficient staff under his control.

Now, even as every organic *structure* (no matter what its source) is made up of a number of distinct parts or organs, each one of which has properties peculiar to itself, yet derives its character from the other, and is the agent of certain actions or functions, which it faithfully carries out under normal and favorable conditions; and even as the concurrence of the *whole* of these individual functions, is essential to the maintenance of the *structure* in its normal or regular state, and for the prevention or repair of those changes, which chemical, mechanical, and physical forces would otherwise rapidly produce in them, so also are municipalities, towns, villages and nations. They also are composed of heterogenous idiosyncrasies, on the kindred and sapient co-operation of which in matters connected with the general good, depends their development and success.

The whole corporation, nation or populace, ought therefore to jointly and separately be interested in the proper treatment of each one of its members, and having the civic and moral right to *enforce* the relations (between individuals) being of of such a nature as to not in any way injure the welfare of the community at large, they should always bear in mind that party-feelings more than frequently lead to internal commotion and internecine strife in nowise conducive to the public weal. It is their bounden duty to insist that those competent persons into whose hands the public health is entrusted, be rendered *every* facility towards the perfection and safe conduct of their highly responsible and arduous task. They should not be hampered and their valuable time frittered away in oft repeated appeals for necessary aid, which a mistaken sense of economy denies them, whenever in the public interest, they suggest or demand anything that implies larger establishment or increased expenditure.

All life whether animal or vegetable, is a continuous series of constant changes, involving for the growth of new and maturing tissues a complete destruction or a partial decomposition and absorption, not only of those tissues on which *that* life was first built, but also of a variety of materials with which it is surrounded or thrown in contact for its support. Under healthful conditions these changes are slow and regular, and depend for their maintenance on processes very similar to slow combustion (or oxidation); but a great number of natural influences (such as:—breathing, feeding &c., and the necessary decomposition of animal and other matters), artificial causes (such as manufactories, unclean habits &c.,) disturb the normal conditions, requisite for the maintenance and preservation of health, rendering it necessary to have recourse to artificial imitations of Nature's grand methods of restoring vitality, by inducing to oxidation, and mechanically or chemically removing the predispositions to putrefaction.

Here then the utility of a well-organised municipality suggests itself; but to properly effect all these requirements we must work *together*. There should be no shrinking from duty, no half measures, and no half-heartedness.

True, in the natural order of things we must all die at some time; but as there is no reason why our span of life should be shortened by negligence or lingered out in misery or suffering, *each* one of us should try to emulate the other in mastering the too much neglected study of Hygiene. It reveals the benefits of sanitation, teaches us how to preserve health by obtaining the most perfect culture of mind and body, for as *long* a time as is ordained by the laws of life, and thus invigorating life, perfects growth and renders decay less rapid.

We are glad indeed of the new Government ruling that "Sanitary Science" must be one of the chief subjects in the training of those officials who are to be placed in medical charge of the various tea-plantations; but we would like to see the study a good deal more general, and if possible forming a portion of the curriculum of every School and College of Medicine. It is a subject that seriously affects every member of a community *alike*, and ought not therefore to be, as it at present is—confined to an isolated few.

Though too vast for discussion in its entirety in the limited space in our journal, Hygiene is a noble science, embracing a patient study of:—Botany, chemistry, mechanics, medical jurisprudence, medicine (preventive and curative), microscopy, natural philosophy, pathology, physiology, political economy, vital statistics and zoology, together with their allied sciences, and a clear insight as well into practical engineering; all, or most of which subjects are (or ought to be) included in every complete medical education.

Yet, as the major portion of the foregoing studies are not those parts that bear the most direct relation to the diagnosis and successful treatment of disease, it would not be wise to expect that every medical man can possibly afford the time to

cultivate an *equal* proficiency in each of the individual branches or parts of his training. For instance, many an eminent physician, surgeon, accoucheur, or dentist, who is *thoroughly* conversant with, and without equal in his speciality, may be practically nowhere when his opinion is sought on matters connected with botany, chemistry, preventive medicine, or zoology, and *vice versâ*.

Thus, while it sometimes happens that the most distinguished practitioner of any locality may be the person best qualified for a sanitary appointment; still, as the reverse is more frequently the rule than the exception, it cannot possibly imply any disparagement of men skilfully and actively employed in the treatment of disease, if the special qualifications for hygiene be found in other members of their profession, rather than in themselves.

The medical portion of the Municipal Commissioners of Calcutta, should therefore remember that as in the person of their present Health Officer they have secured the services of a man peculiarly and strongly fitted for sanitary work, they ought to render every assistance that is in their power, towards the expedition and perfection of the duties they have called upon him to perform. And above all, they should not permit private feelings and pecuniary considerations to prompt them to place obstacles in his way.

The Governments of America and Europe, seeing the benefits of sanitation, have accordingly laid down several excellent and stringent laws for the guidance of their subjects; but here in India, where ecclesiasticism and filth are apparently twin sisters, and we have to deal with a people more or less irrevocably trammelled with all manner of peculiar and curious religious prejudices—many of which are associated with unclean and insanitary rites—sanitary legislation has been too tentative and *more than* cautious. And no matter how closely it may have followed in the wake of Western example, without provoking irritation and impatience to such a pitch as would tempt to overbalance the benefits promised, it is still a subject that demands more careful scrutiny into the effect of the legislative measures now in force, upon the opinions, religious prejudices, and caste feelings of the population. But, it is really doubtful, whether these prejudices will ever be overcome, or whether the East and West will come so close in touch with the views and feelings of each other, as to gain the complete confidence of the people as a whole, and, convincing the nations that castes and creeds have not the right to interfere with Nature's laws, pave the way for further beneficial legislation on matters concerning the public health.

This question is one of the most difficult problems which has, and is ever presenting itself to the human race; what is the cause of decay and death? What does it mean? Human reason has not satisfactorily solved the problem yet, though the brightest and most powerful of intellectual men have attempted it, and some have promulgated theories which to themselves and similarly constituted minds have been acceptable; yet, to other minds have been unacceptable, and even appeared vague if not unsound. Such a theory is evolution; which though acceptable to many great minds, is to us not a satisfactory theory—far from it; for we often wonder at the lengths to which the theory is pushed by some at whose feet in other intellectual matters, we would sit willingly.

Why is it that after a certain period more or less limited the different species, in the several kingdoms of animate nature, show symptoms of decay, which increase more or less rapidly in time and end in death? Can we demonstrate the cause in such a way as to be able to point to such a demonstration as an axiom? We believe we cannot do this; in fact we are certain it cannot be done (of course outside of revelation), the cause of decay and death is inscrutable to the human mind; man, even though he be a giant in intellectual powers, can only go thus far and no further in search after the cause of decay and death. If any of the promulgated theories was a truth, an axiom, man knowiug the cause would possibly find a way to prevent or postpone the period beginning in decay and ending in death. That man is unable to do this shows that the cause is undiscovered: though we admit that there are individuals of the human species, an infinitesmal number indeed, who seem to have been able to postpone decay and death; but then, each of them will give different reasons for the ability acquired of continuing vital powers unaltered beyond the usual period and postponing the period of the collapse of those powers, or death; thus the information available from this source is insufficient and also unreliable. For instance, one individual will state the cause of continued vitality and health in hoar years as "total abstinence," another will set down the cause of the continuance of similar physical powers at a like period of life to the stimulating and invigorating effects of wine or alcohol —such conflicting statements have been made, and made publicly; and others on interrogatory have given like opposite reasons for healthy longevity. Now, should an individual follow the *regime* and habits of life of some other individual who has by such a system attained long life with unabated vital energies, while he himself is differently constituted and his environment is different, it is possible, if not probable, that he would shorten the period of his life by hastening the beginning of decay. This has also been proved by experiment, and has given rise to the vulgar proverb "one man's meat another man's poison."

Sanitation as understood now, and the strict observance of sanitary laws, does certainly tend to preserve health and prevent premature deaths, that is, deaths which are caused by epidemics, which are originated by filth, aud other insanitary observances in the habits of life; but, will the strictest observance of sanitary laws continue vital energy, the energy of manhood and womanhood, beyond the period when the decay of this energy begins, ushering in old age, which ends in death—the normal closing of life. Here we are on doubtful ground. We wish we could state that in sanitation we had discoverd the elixir of life, but we cannot state this, we go as far as we can when we say that sanitation preserves health and prevents premature death; but to preserve health is one thing, and to retain

vital energy or robust health another. Contrast the healthfulness of an inhabitant of a large city and of sedentary habits of life with the healthfulness of a countryman, an agriculturist, and such a contrast will make our meaning clear. Yet, the city man may have, and probably, has the advantage in sanitary institutions and sanitary precautions. The countryman enjoys the sanitation of Nature's providing. The above remark would not apply to Bengal, where one of the chief sanitary methods provided by Nature, a free water-way, is interfered with by railway embankments and other obstructions, and consequently, great tracts of Bengal are now annually water-logged, hence malaria.

The Evolutionist from his point of view says that natural selection, or the survival of the fittest, accounts for decay and death as seen in our world; but is this so? Let us however first hear what the Evolutionist has to say in support of his theory. He says, natural decay and death is the penalty the individual has to pay, because in the earlier stages of his life this individual enjoyed an increased ratio of strength and vitality. This seems invidious reasoning. Should not increased strength and vitality in the earlier stages of life, prolong vital energy, prolong life? No says the Evolutionist, the strength and vitality displayed were of a predominant character, which really means a shortend period for existence, for the seeds of decay and death, and dissolution, was not that which natural selection picked out; but, while not eliminating these, it gave increased life-power which was more essential to the happiness of that particular individual. The Evolutionist for all his circumlocutory language really means what the farmer expresses pithily when he says "soon ripe, soon rotten." In such ways says the Evolutionist, a short life which exhibits heightened vitality or activity may be of advantage to some individuals, while a more prolonged existence though at a lower level of vitality and activity, may be necessary to the happiness of others, aye, essential to their existence. Thus he says, put as a proposition, natural selection determines (in some degree), the relative longevity of different individuals. Well! the Evolutionist has not brought us any nearer to the point of our inquiry; what does decay and death mean? We have only learnt that, for special reasons, certain individuals live for a shortened, and others for a lengthened period—it is therefore clear that Evolutionists cannot help us.

Weissman's theory is somewhat different from that maintained by the Evolutionist. Let us see if he can help us to a clearer knowledge why there should be decay and death in the world around us. Weissman believes that senility and death are no part of the natural heritage of human life, or to put it on a lower plane, animal life; but thinks they have been introduced on utilitarian grounds. Worn out individuals, as he puts it, are not only valueless to the species, but harmful, because they take the place of those that are sound; therefore, man ceased to be immortal and in process of time came to be short-lived by the operation of the laws of natural selection; because, as Weissman asserts, the life of the individual is shortened by the number of years which would be useless to his species, which really means that the selfish man shall not live out half his days. That man has been inordinately selfish may be stated by the fact that the antediluvians counted their years by hundreds, and men count their years now by a few score—three score years and ten being the accepted limit, the average however according to statistics, being two score. Weissman states that the life of man is reduced to a length that affords the most favorable conditions of existence to as large a number as possible of vigorous individuals at the same time. From an utilitarian point of view alone Weissman's theory is acceptable, yet only partially, for we know a number of individuals who have lived and live to hoar age, much of whose lives have been useless to their species, whether from a moral or physical point of view. Weissman's theory does not help us, why there should be decay and death.

Seriously put, no explantion that we have read or heard tells us of the why and wherefore of decay and death in the animal economy—all these explanations convey only vague hints. The difficulty to be satisfactorily explained, for which some sound reason should be given, is this—why should an organism that can maintain in integrity the healthful performance of all its functions, nutritive or otherwise, for a given period—say ten, or fifty, or sixty years, begin to fail after such a period? Why should it not go on performing its functions indefinitely, given a favorable environment, and serious accidents being excluded? This question has never been satisfactorily answered. We know that there are old men who at eighty have more vital energy, and physical strength, and endurance, than many men of five and forty—we know men also at thirty-five, who are really old men, wanting in vital energy and physical vigor. Gladstone is a remarkable example of a hale old man, a grand old man, who though beyond four score, displays his pristine strength and vitality. Bismarck is another living notable example. To sum up, decay and death are inevitable, they result from a law of nature, and are shown in all living organisms at some period of their existence, more or less lengthened. Dissolution is the complement and necessary sequence of birth, and this is as far as we can go in explaining the matter.

Medical News Letters.

LONDON LETTER.

[From our own Correspondent.]

The Annual Meeting of the British Medical Association.

This year the British Medical Association has held a most successful meeting at Newcastle-on-Tyne, and although the town is 170 miles from London, over 700 members were present, including a large number of the leading men in London. The addresses in Medicine and Surgery were delivered by two local doctors, Drs. Drummond and Hume, but for that in Obstetrics the Council was fortunate enough to secure Dr. Cullingworth of St. Thomas' Hospital, London. Dr. Cullingworth entered

into a defence of the dorsal position for vaginal examinations, and urged the importance of abdominal section for suppuration in or about the fallopian tubes, chiefly of gonorrhœal origin. He related several cases which had proved fatal when no operation had been performed, and others where an operation had saved the patient's life. Dr. Cullingworth was enthusiastically cheered at the close of his address, although his opinions upon this latter subject are not shared by the older gynæcologists.

In the Surgical section the most interesting discussions were upon the treatment of intestinal obstruction, and cerebral surgery. In the former discussion very diverse views were taken; some Surgeons with Mr. J. Hutchinson at their head advocated prolonged taxis in strangulated hernia, and in intestinal obstruction from a band, etc., while others led by Mr. Page of Newcastle urged early operation, pointing out that the danger of operations for intestinal obstruction is due to delay in operation.

Professor Horsley read a most interesting paper on cerebral surgery in which he expressed his disapproval of the trephine for opening the skull, preferring a small saw combined with parrot's bill forceps. He recommends too, that when bone is replaced after an extensive removal, it should be replaced in large pieces, and he points out that the cranial bone grows neither from the peri-cranium, nor from the dura-mater, but from its own marrow. He deprecates so-called bone flaps, as interfering with the accessibility of the brain. Bleeding from the brain is stopped by lotions and ligature of vessels. It is now admitted that operations on the brain, with antiseptic precautions are practically as safe as those on any other organ. The tendency to recurrence of gliomata makes the ultimate recurrence of these cases rather unsatisfactory; still Professor Horsley urges their removal when diagnosed, and suggests that recurrences should also be removed. Great stress was laid on the presence of optic neuritis and headaches, as cardinal signs of cerebral tumour.

In the Dermatological Section three interesting debates took place on the subject of Psoriasis, Ringworm and Lupus; the latter subject being introduced by a paper read by Mr. Bidwell on the treatment of the disease by excision, combined with Thiersch's grafting, which has been referred to in a previous letter to the *Medical Reporter*. The other methods of treatment advocated were actual cautery, repeated scraping and caustics; all of these however are more or less unsatisfactory, and require months or even years to effect a cure.

Death of Professor Charcot.

The loss to the medical profession at large caused by the death of Dr. Charcot cannot be over-estimated. The work which the distinguished neurologist has done in relation to locomotor ataxy, chorea and hysteria is most valuable. Dr. Charcot was a man of most impressive appearance, and prided himself on a very close resemblance to Napolean the Great; his keen black eyes and heavy over-hanging eyebrows gave him a look of great power. As a Clinical Lecturer he was almost alone, he kept his hearers deeply interested all through, and his powers as a draughtsman enabled him to rapidly illustrate his lectures in a most effective way. He latterly took great interest in Hypnotism, and was successful in curing a number of cases of hysterical paralysis by its means; in fact his *clinique* at the Sallpêtrière was the first place where the phenomena of hypnotism were studied scientifically. Dr. Charcot is supposed to have had an enormous private practice, patients coming to consult him from all parts of the world.

Changes at the London Hospitals.

During the past few months the following changes have been made at the large London Hospitals. At University College, the vacancy caused by the death of Professor Marcus Beck has been filled by the promotion of Mr. Rickman Godlee, and Mr. Raymond Johnson has been appointed Assistant-Surgeon. In the Obstetrical department, Dr. Herbert Spencer has been appointed to succeed Dr. John Williams. At King's College, Sir Joseph Lister has retired, his place being filled by the appointment of Mr. Boyce Barrow, and Messrs. Cheatle and Beale have been elected to the Assistant staff.

At St. Thomas' Sir William MacCormac retires, causing the promotion of Mr. Bernard Pitts, and the vacancy caused by the death of Dr. Hadden has been filled by the appointment of Dr. Hector Makenzie.

The Committee at St. George's having decided to increase their out-patient work, have appointed an additional Assistant-Physician and Surgeon, namely, Dr. Rolleston, and Mr. Shield, Mr. Shield's election created a vacancy at Charing Cross, which has been filled by the appointment of Mr. Wallis. At the West London Hospital, Dr. Herringham and Mr. Bruce Clarke have resigned, the vacancy caused by the latter being filled by Mr. Eccles.

The Ensuing Session.

The entries of new students for the ensuing winter session will be watched with great interest by the whole profession; for, from this year's numbers one ought to be able to judge, whether the addition of a fifth year to the curriculum, will produce any diminution of the number of gentlemen desiring to enter the profession. It is to be hoped that such will be the case, as every year even well qualified men find it more difficult to find sufficient work. It seems a pity that the Medical Schools should try hard to induce so large a number of men to enter the profession, when they know perfectly well that there will be so much difficulty in obtaining any work after receiving their diplomas. It is an interesting point with regard to medical education in London, that only about one half of the students who commence the study of our profession, ever obtain their diplomas.

Transactions of Medical Societies.

THE CALCUTTA MEDICAL SOCIETY.

The September meeting of the Society took place at the Medical College theatre on Wednesday, the 13th of September, at 6 P.M., Dr. Koilash Chundra Bose, the President, in the Chair.

The following business was previously announced.—1. Cases and Specimens, 2. Discussion on Diabetes.

Dr. Moir shewed the Society a kid on which experiments had been made with vaccine lymph. This he said was kid No. 5, and a series of experiments had been carried out at the suggestion of the Sanitary Commissioner, as transference from a sheep or goat for the process of vaccination, would be less objectionable to caste prejudices amongst the Natives. The results were apparently satisfactory.

Dr. Simpson.—Something like this has been attempted in Arabia with satisfactory results.

Dr. O'Brien then read the following notes of three cases of perforation of the Cæcum and Vermiform Appendix.—

The first of these cases came under my notice while I was at at Darjeeling. A gentleman in high position in life was travelling up by train and on the way he fell ill. He telegraphed to me from Barrackpore, and on his arrival at Darjeeling on the 27th of December I saw him. He complained of pain in the abdomen, and said that his bowels were constipated for two days. Their was moderate distension of the abdomen; fair pulse; slight tympanitis, but no vomiting. I ordered him a castor oil draught with laudanum, also a morphia sedative draught. On the 28th, he said he had slept fairly well. It was necessary to give an enema which brought away a good deal of hard scybalous matter. The morphia draught was repeated. On the 29th the pain was much increased, but still there was no vomiting. He had two sedative draughts and another enema. Complained of great pain on the right side. On the 30th, there was a distinct aggravation of all the symptoms with vomiting, and all the signs of strangulation and obstruction were now apparent. An operation being decided upon, Dr. Raye was telegraphed for, and he arrived on the 30th. The pain, tenderness, tympanitis and vomiting continued, but there was no indication of an abscess, and we determined to try another enema with a long tube, which was administered, but nothing came away. Whilst we were still in the room, he complained of very great pain and became quite collapsed, with other symptoms of a perforation into the peritoneal cavity. The patient was now in a dying state, and passed away within 24 hours, without the operation which had been arranged for the next morning.

On the day after, a *post mortem* examination was held, and I found the whole of the contents of the right side of the abdomen matted together with lymph, and the peritoneum full of pus from an encysted abscess which had burst. The vermiform appendix was extremely dilated and was clogged at one end with fæcal matter. It lay in the pelvis and thus could not be discovered. The moral to be learned from cases of this kind, is that a large portion of the intestines becomes paralysed in connection with the constipation which is usually present.

The second case was in a Hindu, who after suffering for a fortnight, came into this Hospital on the 24th of June, with a swelling in the right iliac region. It was explored on the 25th, and the incision brought away from 8 to 10 ounces of pus with a piece of slough, which on examination was found to be the vermiform appendix in that condition. A drainage tube was inserted, and the case conducted through with the usual care and dressings. He was discharged quite well on the 16th of July, three weeks from date of admission.

The third case came under my care lately in this Hospital. The patient came from Burdwan. I found that it was a retro-peritoneal abscess in connection with the cæcum. He died from septic poisoining after perforation.

Dr. O'Brien then shewed an interesting case of extensive tuberculosis of the bones and joints with dislocation of both hips, in a Native boy of about 12 years of age. Some nine months ago, whilst walking the boy suddenly felt a pain in the knee, for which the advice of a Native practitioner was sought. He was very roughly handled, and since then all these troubles began. The right elbow, right tibia, right knee joint, sterno-clavicular articulation, and the left hip were all affected, the joints being quite disorganised. Since in Hospital, he has been improving in general health. Dr. O'Brien continuing said that he had never seen a case of this kind before. The upper border of the great trochanter was displaced fully two inches.

Dr. Sarbadhikari, then shewed the Society a very peculiar case of skin eruption in a Native male, a sawyer at Messrs Dykes and Co's., yard. The history was that this man with others had been engaged in sawing a large log of wood, as is usually done on a platform. The wood was a large log of teak. His position in the sawing process was at the bottom of the platform, where he was exposed to the sawdust falling on him. On the first day he returned home after work feeling unwell, with a burning pain in different parts of the body. He however turned up on the day after, and was set to the same work. Very soon after, the burning spots which he felt on the first day appeared as blisters and pimples. The Supervisor in charge of the yard noticed these on the man, and on others also who had been working on the same log, and he discontinued the work for a day or so, and then set them to it again. The same symptoms reappeared. The affection returned again; blisters and pimples, lasting a few days and leaving behind patches like pityriasis. Their distribution is very peculiar. They are situated on those parts of the body which were exposed to the sawdust. The wood and sawdust have been examined under the microscope, as also skin scrapings from off the patient, but nothing definite could be seen. The *microsporon furfur* could not be distinguished. Dr. Sarbadhikari shewed the members of the Society a piece of the wood and some of the sawdust which had been, he said, the only traced cause of the affection.

Dr. Bose (the President) thanked the several gentleman for the interesting cases they had brought before the Society, and then referred to Dr. Senn's paper on Diabetes which he had read at the June meeting. He briefly recapitulated the various topics Dr. Senn had dealt with, and then invited a discussion on it.

Dr. J. N. Ghose read a short paper in which he said that the subject had been handled by the Society eleven years ago. He was sorry to observe that nothing had been found out of importance since then. He did not believe that infant marriage, or high-pressure education, had any connection with the disease, and he differed in opinion with all that Dr. Senn had said in connection with diet, sex, age, etc., and concluded by saying that Diabetics should be rejected by Insurance Companies.

Dr. O'Brien said he often wondered if diabetes was not due to a germ, seeing that people in a certain locality often suffer together from the disease.

Dr. Simpson.—I have seen in an American Medical Journal some reference to a microbe as having been discovered in connection with Diabetes.

Dr. Moir.—I dont think Dr. Senn has proved his ætiology; he has only suggested it. Is glycosuria a symptom or a, disease like albumenuria? All the recent Journals point to the pancreas as the cause of the disease. I dont think we can rely on the ætiology. Dr. Moir then referred to the varieties in India and England, and gave the specific gravity as subnormal in cases under the treatment of Drs. Walsh and Pilgrim.

Dr. Drury.—The quantity of urine determines the specific gravity. In cases which are on ordinary food we find sugar, and in those on restricted food we also find it. I dont think this has been satisfactorily explained.

Dr. K. N. Dutt.—During the last 12 months, 7 cases have been admitted into this hospital; 4 were Mahomedans and 3 East Indians. This contradicts the statement made by Dr. Senn, that it is common in the Natives of Lower Bengal. The European Diabetes differs from that met with in this country. It differs in all the salient points as given in text books, especially in the specific gravity.

Dr. Senn replied briefly, after which the meeting was brought to a close, and the members dispersed.

INSURANCE !!!

FIRE — LIFE — MARINE

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6, Lyon's Range, Calcutta. *Agents.*

Current Medical Literature.

THE PHYSICIAN AND SURGEON.

The first great differentiation of the healing art was into medicine and surgery.

The city physician is likely to have a predilection for the one or the other. If he has manifested any particular expertness in surgery, this may become his principal calling.

His country *confrére* is expected to be proficient as a physician and expert as a surgeon. He is liable at any time to be summoned to a hernia case which may require instant operation, to find and ligate a bleeding vessel, or to take the care of a compound fracture. If he lives at a distance from any city, it may fall to his lot to perform lithotomy, possibly laparotomy for volvulus or appendicitis, or even Cæsarian section. It might be supposed that the country physician, being summoned to all emergencies would be ready for any emergency, but practically it has been found that he is conservative, cautious, and even timid. In a difficult case, unless moved by an impulse of self-confidence, he would prefer to call a consultant from a distant town to take the responsibility. In fact, most country surgeons are braver when away from home than they are when at home. The reason is the storm of criticism which the country surgeon must face. An unsuccessful surgical operation will be the subject of conversation everywhere within an area of ten miles; and the demerits of the operation and of the operator will be canvassed in a way to wring one's heart. The resident surgeon may escape the odium of the failure by throwing the responsibility on his principal, who, mainly dependent on another community for his support, will be less morbidly sensitive to the criticisms of that particular neighborhood. The relations of the country practitioner to his *clientele* are somewhat trying. He is on terms of friendship and even intimacy with most of his patrons and may be dependent in almost any particular case for his fee on the success of the operation. If he has a vigorous competitor, the community is invariably divided into two parties, one of which is always barking at his heels.

Another reason for the timidity of the ordinary country practitioner, is that he really sees comparatively little surgery, the great majority of his cases being medical. Grave accidents are of infrequent occurrence, and occasions for major surgery are few. Again, he is perhaps poorly equipped with surgical instruments, and even with the best surgical treatises.

The complaint of the city practitioner is that most surgical cases go to the hospitals for treatment, and if he is not on the hospital staff he is likely to fare hard for opportunities to exercise his talent and make for himself a reputation as a surgeon. Seeing little or no surgery (except as he attends the operations in the hospital), he loses interest in that department of his profession, and he is in danger of becoming awkward and unskillful in even the simple operations which he may occasionally be obliged to perform, such as opening a deep abscess or reducing a strangulated hernia.

That it does not pay the general practitioner to neglect surgery, it is hardly necessary to say. There is in a well-performed surgical operation a satisfaction, inferior, it is true, to that mental satisfaction attending a carefully reasoned diagnosis, but none the less genuine; and surgical specialists have little reason to complain that their practice is not sufficiently remunerative.

It does happen that physicians *medically* treat patients who need surgical aid; letting the victim of appendicitis die for the want of a timely laparotomy; neglecting to apply the curette to the diseased endometrium when months of suffering might thereby be saved; to exsect a necrosed bone which is causing a great local and general disturbance; or to strengthen the incurving spine of a rickety child by suitable supports.

On the other hand, how often has the mistake of the surgeon in regard to such comparatively simple matters as whooping-cough or pneumonia, been the source of grave inconvenience, if no worse, to the family! How often have the early symptoms of locomotor ataxia or of general paralysis been overlooked by the attendant with surgical proclivities, and the golden moment for treatment been lost! To say this is to say that the field of our professional study and practice is immense and that to err is human.

Doubtless in the remoter country he who would do the most good in his profession and be truly successful, must take all medicine for his province (even if he seems now and then to trench on the domain of the specialists), and show as much skill with the scalpel, or in adjusting a splint, as in diagnosticating a spinal sclerosis or in laying down rules for the adminstration of mercurials in a syphilitic dermatosis.—*Boston Med. and Surg. Journal.*

TREATMENT OF CHOLERA BY IRRIGATION.

Elmer Lee, A.M., M.D., of Chicago, reports in the *Medical Record*, December 17, 1892, some practical experiments in the treatment of cholera by irrigation. Dr. Lee gives an extended description of his work in the hospitals at St. Petersburg during the recent cholera epidemic, where he applied the system of irrigation with success.

He says, it is his belief, that if the contents of the intestinal canal are removed at a time before the blood is overwhelmed with the absorption of poisons from the intestinal canal, it is reasonable to expect satisfactory results. The plan consists of the introduction of a soft rubber tube one metre in length, and of a suitable size to be introduced into the rectum, in front of the promontory of the sacrum, into and up through the sigmoid flexure, and into the descending colon. The size that has been found to pass most easily is a tube that would correspond to a No. 48 in diameter. It is of the greatest importance that the tube should be of a proper firmness to prevent it from buckling or bending upon itself when the end, which in all cases should be rounded, comes in contact with the obstructing fold of intestine.

The effect of passing into, through and out of the large bowel two or three gallons of warm water medicated with soap, is not only to directly remove the accumulated contents of the large intestine, but, secondarily, through the sympathetic nervous action of the muscular organism of the small intestine, to almost completely carry off its liquid contents. The doctor says that the value of this lesson has been learned by him in the treatment of various forms of enterocolitis. The plan finally adopted by him in St. Petersburg was to take the patient directly from the ambulance to the bath-room, without delay, and when the clothes were removed the patient was laid on his back upon the irrigating table, with the knees drawn up and the muscles of the abdomen relaxed. Without any waste of minutes, the long tube, after being lubricated with soap, was gently pushed into the rectum as high as it could be made to go, and the stream of the previously prepared solution of warm water and soap, making soapsuds, was allowed to run freely into the colon. When the colon was filled, the

pressure would force the water to seek an outlet of the opening around the tube into a properly constructed receiving vessel. After the thorough irrigation the patient was placed in a bath of warm water and afterwards put to bed. Dr. Lee further remarks that he has found soap consisting of oil, potash and glycerine, when added to warm water, a disinfectant of the highest importance.

After this irrigation he recommends, as an internal treatment, peroxide of hydrogen two ounces diluted with eight ounces of distilled water, given in cupful doses at intervals of three hours. The object of the administration of the hydrogen dioxide per orem was to further cleanse and disinfect the intestinal canal, and the distilled water was added to increase the bulk. Dr. Lee finally says he believes if all cases, without waiting for a confirmatory diagnosis to be made by the bacteriological examination of the discharges, were brought under the influence of this treatment as a system of management it would be reasonable to expect recovery in times of cholera, if not an entire escape from the disease. In view of the conclusions of Dr. Lee we might suggest the irrigation of the intestinal canal with a suitable bactericide like the hydrogen dioxide, medicinal, of Marchand, by administration per orem and per rectum, in all the various forms of enterocolitis, and especially in the typhus cases now prevalent in this city, as being a simple and effective remedy, and one worthy of trial in most instances.—*Dietetic and Hygienic Gazette.*

THE TRUE CAUSE OF CANCER.

An interesting paper on this topic as related to cancer was recently read by O'Sullivan before the Medical Union of Victoria (*Australian Med. Journal*, December, 1892). He discusses at first the prevalence of the malady. The health reports of his country show that, of every twenty-one men and every eight women who live to be thirty-five years old, one will respectively die of cancer. With women the uterus and breast are the selective regions of cancerous invasion, while men are more apt to suffer in the tongue, œsophagus, and stomach. But when we investigate parts not influenced by marked differences of function or the mode of life characterizing the sexes, what may be termed neutral ground, such as the internal viscera, lower intestinal area, and lymph nodes, there seems to be an equal liability with both sexes.

O'Sullivan concludes:

1. That whatever produces chronic ill-health depresses the nervous system, and is clinically found to constitute an influence strongly predisposing to cancerous developments generally.

2. That local agencies exert only a minor influence in their direct genesis.

3. That while rapidly increasing in prevalence in civilized nations, they are almost absent amongst the savage.

4. That malignant disease is in very many instances primarily local, and due to disordered functions, as proved by the fact known to all surgeons, that the disease, when promptly removed, may never recur.

5. That benign ulcerations may become malignant; when it may be assumed the phagocytic action of the leucocytes has become subjugated by the micro-organism.

6. That disease of any kind, whether malignant or inflammatory, never occurs in an individual whose functions and nervous system are in perfect health, and who has, as a consequence, perfect local and general resistance to all pathogenic micro-organisms—in whom phagocytosis is healthily and perfectly accomplished. (And here I may be allowed to say that Mr. Jonathan Hutchinson insisted that cancer is simply a modification of what occurred in chronic inflammation.

7. That when, from continued irritation, depressing influences, or advancing age, the physiological character and vitality of the animal cells become lowered, cancer finds all the conditions necessary for its growth.

8. That, in a word, cancerous disease is but one of the many proofs of over-pressure on the nervous system, which the artificial and vicious conditions of mordern civilization involve. —*Epitome of Medicine.*

FŒTAL-PLACENTAL CIRCULATION DURING PARTURITION.

Caviglia (*Nouv. Arch. d'Obstèt. et de Gynèc.*, December, 1892, January and February, 1893) has come to the following conclusions after careful observation:

1. Blood passes from the placenta to the child in process of birth, through the uterine pressure, retraction, and sometimes, contraction.

2. The constant positive pressure of the fœtal vena cava superior constitutes a resistance opposed to the passage of placental blood by the fœtal organism, but this resistance, being inferior to the force which acts on the placenta, is not sufficient to prevent the afflux of blood.

3. Respiration takes away cardiac force and blood from the systemic circulation, hence it diminishes venous pressure and the special resistance defined in the above paragraph. In this sense alone respiration facilitates the afflux of blood to the child.

4. The afflux exists in cyanotic asphyxia, but to a small extent, owing to the high pressure in the venous system of the child.

5. The arrest of the fœtal-placental circulation does not depend on the diminution of pressure in the fœtal arterial system, but on the occlusion of the placental capillaries by uterine pressure. When the placenta is expelled early, the pulsations may continue almost indefinitely.

6. The passage of blood from the placenta to the new-born child often continues after the umbilical arteries have ceased to pulsate.

7. During the first moments after birth the child's weight diminishes sometimes on account of relaxation of the uterus. Consequently too early ligature involves the risk of removing from the child's circulation not only all the reserve blood, but also some of the blood necessary for the child at any given moment.

The last two conclusions are of importance in practical obstetrics.—*British Med. Journal.*

ITCHING OF CENTRAL ORIGIN, OR BRAIN ITCH.

Bremer (*Review of Insanity and Nervous Diseases*, December, 1892), arguing from Edinger's case of paralysis of the right arm and leg, accompanied by athetosis and by excruciating pain at all times, in whom was found a softened spot in the external nucleus of the left thalamus opticus, accepts the theory that there may be pain of central origin. For how else, he says, will you explain the pain of the hypochondriac or the hysterical, or that of hypnotic suggestion? The epileptic aura, which may be an itching instead of a pain, he explains as a projection of a cortical irritation on a corresponding area of the skin. He refers to the well-known fact that certain persons cannot hear vermin spoken of without being afflicted with a sensation of itching, which he says, is brought about by an association process in the hemispheres. He says he has often seen pruritus accompany melancholia, and reports two cases in which it preceded the mental trouble. The pruritus that is so frequently met with in hysteria and neurasthenia is, in his opinion, undoubtedly, a brain itch, and not a peripheral one. He makes a strong plea against the custom of gynecologists of treating pruritus about the vaginal orifice in neurasthenic women. For treatment he recommends combining bromide (ten to twelve grains) and cannabis ind. ext. (one-fourth grain) three times daily.—*N. Y. Med. Times.*

PENTAL ANÆSTHESIA.

Dr. L. Hollander concludes from nine hundred cases of pental anæsthesia in minor operations:

Pental is an effectual anæsthetic in all cases, and for that reason differs greatly from ethyl bromide, which in some cases is ineffectual. Anæsthesia is induced more slowly than with ethyl bromide, but lasts longer, and the patients only regain consciousness gradually. The least excitement is extraordinarily rare. He did not observe any irritation of the stomach, nausea and vomiting, much less trembling, trismus, aphasia, etc. Neither the heart's action nor inhalation is quickened during the administration; however, the pulse, at times, especially in anæmic individuals, is somewhat weaker, whereas in very excited people it is slightly accelerated. Generally, two or three ccm., are sufficient for anæsthesia in composed people. Ten ccm. are adequate in most cases for the extraction of five to ten teeth. Very excitable and strongly anæmic patients, with a weak heart-action and an old bronchial catarrh, do not endure pental as well as healthy ones. The best manner of administration is that with the Junker apparatus, the advantages being that the admission of the vapors into the lungs can be regulated, and that they are prevented from entering the eyes; also, that less is used, and the disagreeable oder for some people is not so noticeable. Mering is trying to weaken the too rapid effect of pental, and also to mask the disagreeable odor by the admixture of another preparation. Anæsthesia takes place in from one to three minutes.

Notwithstanding all these advantages of pental, Dr. Hollander asserts that it cannot be administered less observantly than any other narcotic. All clothing about about the neck, chest and abdomen must be loosened, and the respiration continually watched by a physician or trained assistant. The dentist or surgeon cannot operate and at the same time, during the operation, observe dangerous symptoms. Without doubt, at times unpleasant, as well as dangerous, symptoms may occur through the use of pental, as well as with all other narcotics; but whether occasioned by pental, peculiar dispositions of patients, or lack of precautions on the part of the physician, and how the same may be avoided, can only be decided by observation and experience of different workers. Pental is at present, on account of its sure effect and the wonderfully comfortable feeling of patients after anæsthesia, the best narcotic for all operations of short duration.—*Medical Standard.*

THE ETIOLOGY OF GENERAL PARALYSIS OF THE INSANE.

A considerable number of cases have now been recorded in which both the symptoms of general paralysis of the insane and those of posterior spinal sclerosis were present, and in some of these cases the accuracy of diagnosis was confirmed by post-mortem examination. This association, though perhaps not frequent, suggests that there may be some close relation between the two diseases, and one writer has even gone so far as to describe general paralysis as but a cerebral form of posterior spinal sclerosis. Both are practically incurable diseases; certainly, little is to be expected from medicinal treatment. It is, therefore, of the highest importance to recognize their causes, so that measures directed to their prevention may be adopted.

It can be accepted as demonstrated, that, of the factors that enter into the causation of posterior spinal sclerosis, syphilis is more common than all of the others together. The likelihood of a similar etiology for most cases of general paralysis of the insane furnishes an additional bond of union between the two diseases.

Pietersen *(Birmingham Medical Review,* Vol. XXXIII., No. 176, p. 193) makes an interesting and valuable contribution to the etiology of general paralysis of the insane, considered from the clinic, statistic, and pathologic point of view. Of the many factors assigned as causes, including worry, anxiety, mental and physical overwork, emotional disturbances, alcoholism, sexual excesses, venereal diseases, insolation, traumatism, febrile conditions, etc., he shows that none plays so prominent a part as syphilis. If all of these influences acted as causes, the disease would certainly be more common than it is. Some no doubt, excite into activity an otherwise latent force.

The pathologic changes of general paralysis of the insane (primarily affecting the vessels and secondarily the nervous tissues) practically do not differ from those of known syphilitic origin.

Chronic alcoholism may be attended with symptoms resembling those of general paralysis, but the former are not progressive if the alcohol be withheld, while the latter, once manifested, continue to a fatal issue. The lesions of chronic alcoholism also most closely resemble those of general paralysis, but in the one condition careful examination shows that the morbid changes fundamentally involve the intima of the vessels, while in the other it is especially the adventitia that suffers.

As to the influence that sexual excess may play in the etiology of general paralysis, it is most likely that this is related to the probability of syphilitic infection.

Upon direct inquiry a history of syphilis will be elicited in the largest proportion of cases of general paralysis. In other cases the personal history will warrant, at least, a suspicion of syphilitic infection. Besides this, there is the circumstantial evidence that the disease is more common in the lower classes, and that males suffer in greater proportion than females.

Instances have been recorded in which general paralysis has been observed early in life in cases of congenital syphilis. Friendreich's ataxia, also, is by some considered a manifestation of congenital syphilis, and may be conceived to represent the spinal from of a syndrome, of which general paralysis represents the cerebral form.

That anti-syphilitic medication is capable of accomplishing so little in the treatment, as well of general paralysis as of posterior sclerosis, is to be explained by the fact that the destructive changes to which the syphilitic process has given rise are irreparable; but a knowledge of the etiology places in our hands the powerful safeguard of prevention.—*Medical News.*

TETANUS WITH FACIAL PARALYSIS.

Klemm (*Berl. klin. Wock.*, January 16, 1893) discusses this form of tetanus ("Kopf-tetanus") due to the infection gaining access within the distribution of the cranial nerves. The author maintains that it is only a variety of traumatic tetanus characterized by the presence of tetanus with facial paralysis. In men trismus is the first symptom of tetanus whereas in animals the spasm begins in the region of inoculation. Thus tetanus occurring in man as the result of injury within the distribution of the cranial nerves resembles the tetanus of animals. Moreover, there are many cases on record of the spasm beginning in man in the muscles of the infected region. Perhaps tetanus beginning with local spasm is not so rare, but attention is not drawn to it as in the case of spasms affecting the head. The name "Kopf-tetanus" is insufficient, for later the spasm may spread to other parts. The author then considers the peripheral and central effects of the tetanus poison. The peripheral action is seen in the alteration in the neighboring muscles, and this is especially marked when the injury occurs in the region of the head. The facial paralysis is also a peripheral manifestation. How it is that in some isolated cases tetanus remains limited to the neighborhood of its invasion is difficult to explain. This double effect on the periphery and centre explains spasm in muscles more or less paralyzed. Tonic and clonic spasm may occur in such muscles. In a case of this local form of tetanus recorded by the author the contracture of the face disappeared, but the paralysis remained. The author says in conclusion that this abortive form of tetanus is not different from traumatic tetanus, and that in addition to the spasm there is facial paralysis. He would propose for it the name of "tetanus paralyticus."—*British Med. Journal.*

BACTERIA AND CALCULI.

At a meeting of the Paris Academy of Sciences held recently, Dr. Galippe presented a paper on the relation of microbes to calculous deposits and concretions within the body. As the result of eight years' work on the subject, he stated that he found all varieties of stones and concretions to contain microbes of a peculiar kind. These he regarded as the causes of the chemical decompositions which led to the formation of the deposits. Healthy organs frequently contain the micro-organisms in large numbers, but they produce no harmful effect so long as the body fluids are in a normal state. When the fluids become morbid, however, the microbes "set to work to produce the deposits which develop into gravel and stone." By cultivating the bacteria in a solution containing human saliva for several years, he obtained from it hundreds of little stony concretions which were identical in character with ordinary salivary concretions.

Dr. Galippe suggests that his microbe, which can be isolated and artificially cultivated, might be employed for a therapeutic purpose, namely, to induce calcareous changes in tuberculous foci, and thereby to arrest the progress of tuberculous disease. We do not gather that the author was able to suggest a practical method of bringing about the above desirable end.

These researches are of undoubted interest, and may lead to a clearer understanding of the processes which lead to calcareous formations and calcareous degeneration. But it is worth pointing out that they have, in a measure, been anticipated by an English worker. In a paper published in the "Proceedings of the Cambridge Philosophical Society" (May 20, 1889), Mr. H. Robinson, Assistant to the Professor of Chemistry, described how, by cultivation of certain specific bacteria, among them the bacterium putidum fluorescens, obtained from Cambridge well-water, he had been able to produce crops of crystalline concretions of triple phosphate. This insoluble ammonium-magnesium phosphate is identical with the mineral known as struvite, which is found in old graveyards, under the floors of stables, and in guano; that is to say, in places where organic matter is undergoing decomposition in the presence of magnesia and phosphoric acid. Mr. Robinson deems it probable that struvite is formed in soils through the agency of micro-organisms, and that if the ground in the neighbourhood of "fairy rings" were examined, this mineral would be found in it. He goes on to suggest that the formation of calculi in the body may be due to the production in it of ammonia by micro-organisms, and he finds that certain of the microbes found in the human mouth produce triple-phosphate crystals with great facility. "This fact," he adds, "has led Dr. Cunningham and myself to suppose they may be the cause of the deposition of tartar on the teeth. Analyses of the saliva show the presence in it of considerable quantities of magnesium and calcium phosphates in solution. Ammonia only is wanted to cause the formation of ammonium-magnesium phosphate and to throw out of solution the calcium phosphate, and these salts are both constituents of tartar, and we have shown that certain micro-organisms commonly found in the mouth do produce that substance in the test tube."

It is to be hoped that both the Parisian and the Cambridge observations on this highly important subject may be pursued. —*British Med. Journal.*

LACERATION OF THE CERVIX.

Dr. Fraisse (*Nouvelles Atch. de Obstet et de Gyn.*) holds that every delivery at term in a primipara is accompained by a laceration of the cervix. When it is of the first degree it undergoes immediate repair, and is shown only by a transverse elongation of the os.

The first symptom of severe laceration is hemorrhage, appearing previous to expulsion of the placenta and reappearing after the third stage of labor is completed. The blood comes in jets, and is fluid and bright red. Dr. Fraisse formulates this statement: If the uterus is firmly contracted, and there are no external lesions, any abundant hemorrhage may be assumed to have its origin in a laceration of the cervix which extends beyond the insertion of the vagina. Such a wound greatly increases the dangers of local and general infection.

The treatment of the hemorrhage consists in pressing the cervix upward towards the symphysis by means of the left hand introduced into the posterior cul-de-sac, the right hand seizing the body of the uterus externally and maintaining it in a position of anteflexion for about ten minutes. One such manœuvre is usually effective, but it may have to be repeated; should it fail, a continuous catgut suture may be at once applied.—*Med. and Surg. Reporter.*

PROFOUND OPENING OF THE TRACHEA FOR THE REMOVAL OF A FOREIGN BODY.

Stickler (*Medical Record*, vol. xliii, No. 17, p. 541) has reported the case of a child, aged three years, with membranous croup, in which it became necessary to open the trachea just below the thyroid isthmus. Everything went well until, while an attendant was attempting to cleanse the trachea with a probang, a bit of gauze that was insecurely fastened became detached and at once passed into the left bronchus. The breathing immediately became labored and the child cyanotic. The child was inverted and other means were employed to dislodge and remove the foreign body, but to no avail. The tube was removed, and, the trachea being grasped on either side by forceps, the opening was enlarged and the trachea was elevated by lateral and upward traction. The soft tissues were then divided in the median line down to the sternum and exposing the anterior surface of the trachea. Bleeding vessels were at once seized with forceps. With the index finger as a director and guide, the trachea was divided anteriorly down to its bifurcation. The little finger was introduced first into the right and then into the left bronchus, but the gauze could not be felt. By means of a pair of forceps with angular blades, however, the plug of gauze was, after one or two attempts, successfully removed. The breathing at once became easy and the cyanosis subsided. The margins of the tracheal and superficial wounds were brought together by sutures, the tracheal tube was reintroduced, and the child was treated as it had been before the accident.—*Med. News.*

TONSILLOTOMY TO PREVENT DIPHTHERIA.

In a recent article in the *Journal des Sciences Medical de Lille,* Lancey advocates a procedure, which the common sense of the profession should have established long ago. Reasoning from the well-known fact that a great majority of all cases of diphtheria start on the tonsils, he advocates their removal, when enlarged, to prevent the lodgment of the bacillus. The Leoffler bacillus is aërobic. If swallowed it would die from lack of oxygen and from the action of the gastric juices. Lodging in the crypts of a projecting tonsil, it is in the best possible position to grow. The tendency to enlarged tonsils is hereditary. When one child of a family where all the children have enlarged tonsils contracts diphtheria, the others run much greater risk of contracting the disease than they would with normal throats. This risk can be greatly reduced by removal of the tonsils. Recurrent attacks of follicular tonsillitis are best treated in the same way. The tonsils should be amputated in the interval between two attacks.

COFFEE-DRINKING AS A CAUSE OF ITCHING.

Dr. Brown-Sequard again calls attention to the fact that occasional pruritus ani depends upon drinking coffee, and publishes a case in which leaving off the beverage completely cured a case, the malady returning on recommencing the beverage.

VITAL STATISTICS.

Stations.	Population,	Period.	Deaths.								Ratio of deaths per mille.	Births.	Ratio of births per mille.
			Cholera.	Small-Pox.	Measles.	Fevers.	Bowel Complaints.	Injuries and accidents.	Other Causes.	Total.			
Calcutta ...	681,560	Week ending 19th Aug 1893.	19	2	...	174	64	...	165	424	32·4	...	...
,, ...	,,	26th ,, ,,	14	...	...	157	40	...	235	346	26·4	...	...
,, ...	,,	2nd Sept. ,,	9	...	...	137	71	...	141	358	27·4	...	...
,,	,,	9th ,, ,,	12	1	...	140	76	...	174	403	30·8	...	...
,,	,,	16th ,, ,,	6	1	...	168	64	...	140	379	29·0	...	...
Bombay ...	821,764	15th Aug. ,,	9	...	...	90	34	...	296	429	27·14	...	...
,, ...	,,	22nd ,, ,,	3	2	...	126	60	...	449	640	40·49	...	...
,, ...	,,	29th ,, ,,	2	3	...	92	41	...	281	419	26·51	...	...
,, ...	,,	5th Sept. ,,	3	3	...	97	38	...	261	402	25·43	...	...
,, ...													
Madras ...	452,518	11th August ,,	...	...	10	154	80	...	148	402	46·1	411	47·2
,, ...	,,	18th ,, ,,	...	...	9	165	110	...	204	488	56·7	458	52·6
,,	,,	25th ,, ,,	...	1	11	166	92	...	185	455	52·2	398	45·7
,,	,,	1st Sept. ,,	1	...	10	182	91	...	155	439	50·4	436	50·1
,, ...	,,	8th ,, ,,	...	1	3	172	80	...	149	405	46·5	424	48·7
Delhi ...	...	August 1893.	...	3	...	259	43	3	211	519	...	672	...
Rangoon ...	...	11th Aug 1893.	...	1	1	39	15	...	68	124	35·76	...	...
,, ...	...	18th ,, ,,	1	1	...	40	10	1	50	103	29·70	...	...
,, ...	...	25th ,, ,,	2	...	...	35	13	...	72	112	35·18	...	...
,, ...		1st Sept. ,,	1	...	...	28	10	1	49	89	25·66	...	...
Naini Tal Dist	362,248	June 1893.	10	39	...	879	84	12	18	1042	2·88	650	1·79
Moradabad ,,	1,179,398	,, ,,	3	18	...	2992	232	55	400	3700	3·14	3418	2·90
Bareilley ,,	1,400,691	,, ,,	4	158	...	1867	144	56	134	2363	2·27	3068	2·95
Saharanpore ,,	1,001,280	,, ,,	11	1	...	2218	92	26	34	2382	2·37	2482	2·48
Meerut ,,	1,391,458	,, ,,	18	1	...	2631	17	31	22	2720	1·96	3151	2·26
Agra ,,	1,003,796	,, ,,	4	14	...	1213	116	48	334	1729	1·72	2632	2·62
Sitapur ,,	175,413	,, ,,	4	49	...	1519	9	68	124	1773	1·65	3362	3·13
Cawnpore ,,	1,209,695	,, ,,	6	...	...	1658	27	82	317	2090	1·73	2401	1·98
Allahabad ,,	1,548,737	,, ,,	2	17	...	1797	31	116	280	2243	1·45	2174	2·05
Fyzabad ,,	1,216,959	,, ,,	15	3	...	1285	36	104	243	1686	1·38	2832	2·33
Goruckpore ,,	2,994,057	,, ,,	42	55	...	1878	328	198	1301	3802	1·27	7031	2·35
Benares ,,	921,943	,, ,,	27	7	...	1068	46	58	190	1396	1·51	1581	1·71

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Medical News and Comments.

The subject of our next illustration will be Dr. T. E. Burton-Brown, late Principal of the Lahore Medical College.

THE CALCUTTA MICROSCOPICAL SOCIETY.

A general meeting of members of this Society was held on the night of the 11th Sept. last at the Asiatic Society's rooms. In the absence of the president and the vice-president, Mr. W. J. Simmons, honorary secretary to the Society, presided, and there was a fair attendance. After the proceedings of the general meetings held on the 10th July and 14th August last had been read by the chairman, and confirmed, Mr. B. Aitkin read a *resumé* of the periodicals recently received by the Society, Dr. Alcock then gave a short account of the last season's collections of the Marine Survey. Some discussion followed, after which the meeting came to a close.

What to do in the "Pujas" is already being discussed by many who feel that they have had nearly enough of the hot weather. The shipping companies are making alluring offers for cheap sea-trips, and the rival merits of the sea and the Himalayas would provoke a discussion anywhere. There is much to be said for both. For those who desire rest rather than exercise and excitement, the peace of a sea-voyage, shut off from daks, peons and telegrams, has a real charm about it; while on the other hand, those who long to re-double their vigour by mountain climbing naturally prefer a few weeks on the hills. Darjiling is rather a sudden change for those who can only get away for a few days. It ensures a 'cold' on arrival there, and another on returning to Calcutta.

One is a little at a loss to comprehend the occasion for the apology which Lord Roberts is said to have made to the ladies who achieved fame by spying out the land in Rawal Pindi. His Lordship was not in any way responsible for the breach of the law committed at this station, nor had he in any way opposed the fair creatures engaged in the good work to which they had devoted themselves. The ladies discovered with 'rare detective skill' that a breach of the law had been committed in two cantonments without the knowledge of the authorities, and as soon as the misdeed was pointed out it was admitted and the matter put right. Lord Roberts' so called apology will therefore, probably turn out to be merely a polite admission that the ladies' statements were correct.

A French doctor, named Berillon, in looking round the limited field that is left for discovery of new diseases, has stumbled on "onchyophage," which is merely the childish habit of gnawing the nails. He sees in this habit a symptom of degeneracy, of nervous excitation and debility, of incipient lunacy, and half a hundred different kinds of "phobies" which are all well known to practitioners in Paris. He has investigated the causes of onchyophage therefore, and statistically tabulated the facts. He finds that it is more prevalent in towns than in the country, more common in girls than in boys. He associates it with the nibbling of pens, and appears to forget that nine-tenths of adolescent humanity pass through this stage, and emerge from it later with their frames unimpaired and their intellects untainted.

A Military Funeral.—On the morning of the 3rd September last, the remains of Mr. R. C. C. Seymour, a junior military pupil of the Calcutta Medical College (who died on the previous evening), were buried with military honours in the military cemetery. The deceased fell ill on the 8th of August, of typhoid fever, from which he succumbed on the 2nd. Sept. His mother nursed him throughout his illness. The class-fellows of the deceased turned out in full uniform under the command of Lieutenant H. C. Hodgkins, and accompanied the coffin to the grave. Dr. Bomford the Principal was also present at the funeral.

Dr. Fenn, the Viceroy's Physician, will take up the Honorary Secretaryship of the Dufferin Fund on the departure of Colonel Pritchard, Mr. R. G. Macdonald becoming Honorary Treasurer.

The subject of protected professional communications has been brought prominently forward in connection with the impending Pittapore Zemindary case in the Southern Presidency. A number of medical men have already been examined on commission, and have been made, to testify about matters which came to their knowledge in their professional capacity as medical men. One of them declined to disclose any information he had acquired in his professional capacity; but the District Judge of Calicut, who was taking the evidence on commission, disallowed his objections. It may not be generally known that the only kind of secrets protected are those confided to legal advisers.

Amongst the duties which fall to the Medical Department of the Local Government Board in London, is the supply of vaccine for public use. For this purpose they have a factory so to speak in Lamb St, Conduit St, in the city, where they keep a stock of calves. According to the last Report, 269 male and 67 female calves were received into this establishment during the year 1891,92. Their aggregate weight on reception was: males 62 172 lbs, and females 20 059lbs. On dismissal from the station as it is technically called, their weight was males 71,950lbs, and females 21 620lbs. Therefore, it cannot be said they don't thrive. In addition to the calf-keeping, they go in for a little vaccination of human beings at this institution.

It is stated that the Opium Commission opens its inquiry in India in Calcutta. It is doubtful whether the inquiry will be finished in one cold season. It may possibly go to China.

Mr. Herbert Nevil Chambers, son of Dr. E. W. Chambers, Coroner of Calcutta, headed the list of the successful medical candidates of the Edinburgh University in the First Professional Examination. Mr. Chambers obtained honours in four subjects, and has been greatly complimented by the Lord Provost of the University for his artistic coloured diagrams in the biological section.

Owing to several cases of enteric fever occurring among the troops in Fort St. George, the military authorities have removed the patients into tents on the glacis. A lady nurse of the Indian Nursing Service was sent from Bangalore to attend to the sick. The outbreak of the fever is in the opinion of the medical authorities, due to the filthy state of the Fort moat, and the sooner this is remedied the better.

Hindoo Medicine.—The "Charka Samhita," which contains the ancient Hindoo doctrine and views on health, disease and remedies, is about to appear in an English translation by Dr. Kiviratna, Editor of a Bengali medical journal and of several Sanskrit works. According to Dr. Hassler, of Santa Ana, California, it is a monument of wisdom where the modern physician will find many of his theories and cures laid down. As to its age, Dr. Hassler ascribes it to the period of the rise of Buddhism (600 B C), but in any case it is exceedingly ancient. The "Charka" relates that in the earliest times some fifty learned men assembled in congress to study the science of life and the causes of disease. Their first conclusion was that "Freedom from disease is the excellent root of religion profit, pleasure, and salvation. Diseases are depredators here of man, as also of happy life. This, therefore, is a great enemy of mankind that hath appeared. What shall be the means of checking it? Having said this, they betook themselves to meditation." Both physical and mental health and disease is treated in the book, and long lists of drugs and plasters are given. The care of the teeth is strongly urged, and the plants suitable for making tooth-brushes are enumerated. "As the chief officer of a city protects his city, as the charioteer protects his chariot, after the same manner should the intelligent man be attentive to everything that should be done for the benefit of his own body." As to the mind, 'one should act in such a way as to preserve one's normal condition, in order that one's untroubled senses and mind may continiue in an untroubled state. Selfishness, it affirms, was never a cause of happiness, and one should not suffer oneself to be overcome by one's senses'.

Surgeon-Colonal Gilligan, Medical Service, was taken from the Peshawar train at Lahore station on the night of the 22nd of last month suffering from heat appolexy, and died in the Mayo Hospital shortly afterwards. The deceased officer, who had not long returned from home, after long leave, arrived in Lahore and was going on to Kohat. He was noticed to be in ill-health during his stay in Lahore.

A report has obtained currency that, owing to the comparatively small number of medical officers due for relief in India this season, it has been found necessary to call for volunteers from the Indian Medical Service for duty on board the home-going troopships, We understand, says the *Lancet*, there is no foundation for this report. The deficiency of officers, if it exists will be supplied by officers of the British Medical Service, who though not entitled to relief, have completed the longest period of their regular tour.

A Breslau chemist attributes the spontaneous combustion of hay to the action of a parasitic fungous (aspergillus fumigatus) known to be injurious to the germination of barley, on account of a peculiar heating action which it possesses.

Sister Rose Gertrude, who went out to nurse the Hawaiian lepers, but was obliged to leave her charge on account of some difficulties with the native officials, is now (says the *Westminister Gasette*) living at Sao Paulo, Brazil. Together with her husband, Dr. Lutz, the lady is engaged in medical work in their new home.

Proposed Ambulance Service for Calcutta.—The municipal commissioners have for some time had under consideration the question of an ambulance service for Calcutta. This city, it has been urged, is very badly off in this respect and an expeditious removal to hospital of patients suffering from small-pox or other infectious diseases is impossible. Prompt isolation of cases not being effected, there is always danger of epidemic diseases. Bombay is well off in this respect maintaining several ambulances, which the authorities there find to be exceedingly useful, and the proposal now before the commissioners is for the establishment of a similar efficient service in this city.

The Delhi Municipality employ a Mahomedan for the destruction of poisonous reptiles. A visit to this man's establishment is instructive and well worth the trouble. He is at present in possession of no less than about thirty beautiful specimens of the cobra, in the full possession of their poison fangs. The snakes are completely under his subjection. He says he has been bitten by cobras on several occesions, but has cured himself, and in proof of which he shows several ugly cuts and gashes on his body where he has sliced off the bitten part with a knife.

A Parsee the other day was appointed a Professor in the Berlin University. Now another has been appointed Assistant Teacher of Chemistry at Harvard University. This is Mr. Manickshaw Cowasjee Bamjee, graduate, a successful student, of the Bombay University, and who proceeded to America from the Poona College of Science to further continue his studies there.

Through the courtesy of Messrs Calvert & Co., of Manchester, we have been favoured with a small sample packet of a few of their preparations. 1—Carbolic ointment, which is well known to the profession and public as a simple and efficacious remedy in indolent ulcers, abrasions, etc. 2—Prickly-heat and Mosquito soaps, which we have used and found very efficacious. 3—Dento-phenoline, an equisite preparation for the teeth and gums, agreeably perfumed and forming a delightful wash for deodorating the mouth after smoking, or after the use of nauseous medicines.

From the China papers we learn that the people of Hongkong have developed a new vice. It has recently come to light that morphine injection is largely practised in Honkong as a substitute and supposed cure for opium-smoking, the practice having been introduced a few months ago by a Chinaman who had had some training in Western medicine.

The British Consul at Shanghai says that very many opium smokers have discarded the dear Indian opium for the native drug, to which they have accustomed themselves. "At the moment there is in the port the largest stock of Indian opium on record, and its sale is rendered very difficult on account of its high price. During the year some 15,000 ounces of morphia were imported, and it is no longer regarded as simply 'a foreign medicine.'"

A Texas editor has been going into economics. He says:—"A bushel of corn makes four gallons of whisky, which retails at $16. Of this the farmer gets 40 cents; the railroad, $1; the United States, $3; the manufacturer $4; the vendor, $7; and the drinker—60 days and the *delirium tremens*."

Medical Appointments.—Surgeon-Colonel Spencer, Principal medical officer, presidency district, will succeed Surgeon-Colonel Harvey in charge of the Punjab Frontier Force. Brigade-Surgeon-Lieutenant-Colonel Birch, Principal of the Medical College, Calcutta, will probably take up Surgeon-Colonel Spencer's present post.

Calcutta Water-supply.—From a statement issued by the Municipality it appears that the filtered water-supply of Calcutta has been increased from a daily average of 3,011,969 gallons in 1870, when the water-works were started, to 20,030,535 during last year.

Scavenging of Calcutta.—In his Annual Report on the administration of the Health Department for 1892-93, Dr. Simpson refers in the following terms to the regulations as now in force which are influential in preventing Calcutta from ever becoming a clean city:—'In connection with the conservancy of Calcutta there is one important point I wish to record, *viz.*, the impossibility of decently cleaning the north part of the town with the present regulations. The inhabitants are permitted to throw refuse into the streets until 8 in the morning, and with this rule the streets are not cleansed until 11 and sometimes after 11 o'clock in the morning. Permission is given by the rules to throw out refuse again at 12 o'clock, so that as soon as the streets are cleansed they are again soiled and this refuse remains until the next morning. The consequence is that the streets are never clean, the soil is never free of filth; it gets thoroughly saturated and gives off offensive smells. I know of no other town in India where the inhabitants are permitted the same license. Benares, Agra, Delhi and Lucknow are cleaner in this respect than Calcutta. The question of regulating the hours has come up several times for consideration, but no advance has been made. Lately, I have had the opportunity of visiting Bombay and find that the inhabitants there are not allowed to throw refuse on the streets. The difference between the cleanliness of the two towns will not bear comparison. Bombay at 6 o'clock in the morning is as clean as Calcutta at mid-day. The Bombay system compels the residents by means of their servants not to throw the refuse on the street in front of the house, but to carry it to carts placed at certain specified places in the districts, and the refuse has to be taken to the carts within certain fixed hours. There would be no hardship in fixing the hours for throwing out refuse on to the streets of the northern wards of Calcutta between 10 P.M., and 8 A.M., and prohibiting refuse being deposited in the streets at any other time. Any refuse that the inhabitants wish to dispose of after 8 A.M. should be carried to the nearest moveable dust bin provided by the Municipality."

The Royal Marriage Message from the Queen.—The Queen wishes once again to express to her people how much gratified and touched she has been by the great loyalty and devotion to herself and her family which has been so strikingly evinced on the occasion of the marriage of the Duke of York and the Princess May of Teck. It is indeed nothing new to the Queen, for in weal and in woe she has met with the kindest sympathy. She knows that the peoples of her vast Empire are aware how truly her heart beats for them in all their joys and sorrows, and in the existence of this tie lies the real strength of the Empire. With them the Queen joins in the fervent prayer and wishes for the welfare of her dear grandchildren.

So far back as August 1889, there was forwarded to the Government of India, for consideration the recommendations of the Royal Commission on the Blind, Deaf and Dumb, and Idiots and Imbeciles. These were mainly to the effect that it was more advantageous for local authorities to make the education of such unfortunates compulsory, than to have to maintain them through life in idleness, or allow them to live on charity. Local Governments were asked to state their opinions as to the extent to which the conclusions of the Royal Commission were applicable to the classes referred to in India. A Resolution now published states that before coming to a final decision the Government of India have awaited the publication of the Returns of the Census taken in 1891. These Returns show that out of a population of 274,373,929, the numbers in each of these classes are: idiots and persons of unsound mind, 74,289; congenital deaf mutes, 196,861; blind persons, 458,868. Local Governments are unanimous in agreeing that the recommendations of the Royal Commission are unsuitable for India. The family system has caused it to be generally recognised as an obligation on all able-bodied persons to provide for the support of those members of their families who from congenital or other defects, are unable to earn their own livelihood. The State has moreover, not yet succeeded in securing instruction in the rudiments of learning for those classes who suffer from no natural disqualification, as general primary education is still so backward among the masses. The Government of India consider that it would be premature to incur expenditure in endeavouring to train persons who, at best, could only very imperfectly respond to the efforts made on their behalf, and whose education would be exceptionally expensive. They have, therefore, decided that the assistance of Government in this direction should, for the present, be limited to grants-in-aid of public or private charity.

The "Presbyterian" Apologises.—It may be remembered that the action of the Missionary Conference at Bombay last year in refusing, in the absence of definite information, to condemn the action of Government in connection with the Cantonment Regulations led to much abuse being heaped upon Indian missionaries by some of the so-called religious papers in England. Dr. Miller was specially marked out for attack, and one paper, the *Presbyterian*, was particularly offensive, concluding an insolent article with the remark that missionaries of the stamp of Dr. Miller must be weeded out. The article was of so scurrilous a nature that many of the leading men in the English Presbyterian church, of which this paper is the semi-official organ, wrote to protest against its insertion, and Dr. Miller promptly took steps to obtain reparation with the result that the following apology has now been published by the *Presbyterian*:—

Our attention has been called to certain statements and expressions reflecting on the Revd. Dr. Miller C. I. E. Principal of the Christian College, Madras, which appeared in an article in our issue of the 17th of March. We beg to express our regret that these statements and expressions should have appeared in our columns and to withdraw unreservedly any imputations made against Dr. Miller. We also desire to apologize to Dr. Miller for the annoyance occasioned by the statements and expressions in question, and to thank him for giving us the opportunity of making this withdrawal.

It is an instructive commentary on the character of these "religious" papers, that the teachings of the Gospel have much less influence with them than the fears of the law, and that a lawyer's letter can produce an apology when a sense of common decency, not to speak of Christian feeling and charity, has failed to do so.

Medical Scholarships for Women of Cochin.—It is notified in the *Fort St. George Gazette* that, in connection with the Countess of Dufferin's Fund, the Cochin Government is prepared to grant a scholarship of Rs. 50 per mensem, tenable for four years, to a young woman, born in Cochin, to study for the Certificate of apothecary or a medical degree, and a scholarship of Rs. 30 per mensem, tenable for four years, to a young woman, born in Cochin, to study for the Certificate of Hospital Assistant. The scholars must pursue their studies in the Madras Medical College, and will be under the supervision of the committee of the Madras Branch of the Lady Dufferin Fund. Candidates for the scholarship must be at least twenty-one years of age.

Cholera.—An epedemic of cholera occurred among the *bustees* in Lansdowne-row, where several deaths took place. It was attributed to the insanitary state of the tanks, from which the poor people of the locality obtain their supply of drinking water.

Canteens for native regiments have been introduced in Bangalore. The object of the movement is to guard against the consumption by sepoys of a bad quality of local beer outside.

Reviews and Notices.

Braithwaite's Retrospect of Medicine.—Vol. CVII, 1893. (*Simpkin & Co., Ld.*) This publication maintains its standard of excellence. The matter in the present volume has been very carefully selected, and as a whole is much larger than its predecessors.

The Medical Annual, 1893.—A work of reference for Medical Practitioners. A series of valuable contributions by twenty-five known writers. In one volume of nearly 800 pages. —(*Wright & Co., Bristol, England.*) This book has been on our table for some time, and has been constantly used as a work of reference. It contains a complete report of the progress of medicine throughout the world. The names of the contributors are a sufficient guarantee as to the value of the work, and the reader is presented with what is considered to be substantial improvements over former ideas and methods of treatment. The work certainly possesses the advantage of going over the ground of the past year in a very thorough and systematic manner, and we cheerfully recommend it to our readers, feeling confident that every medical man can obtain benefit from its perusal.

The Baby, By S. O. Moses, L.R.C.P.E., L.F.P.S.G. (*Thacker Spink & Co., Calcutta*)—Within the compass of one hundred pages, the author deals with the feeding, rearing and diseases of infants, and shews how diseases amongst them are to be regarded and dealt with, till professional aid is called in. The whole work is divided into fourteen chapters; diet and clothing being very carefully handled in the first six. Chapters vii to xiii deal with diseases common amongst children, and the last one is devoted to medicines. The style of the writer is simple throughout, and is thoroughly adapted for those who need such advice. We have much pleasure in welcoming this little work as a very useful and reliable guide for mothers in the treatment and handling of babies.

THE "STANDARD" DICTIONARY.

We have carefully perused the prospectus of this Dictionary, about to be published by Messrs Funk and Wagnalls, of New York. The price will be 12 dollars for the single volume edition; and considering the completeness of the work as a dictionary, it is priced remarkably low. The few specimen pages which we have perused have impressed us very favorably; in fact, we have been very much pleased with them. The Standard Dictionary will consist of over 2,200 pages in clear, readable type. Its pages will be embellished with over four thousand illustrations, every one of them made expressly for the work. The meanings of 280,000 words, well arranged and set forth in a practical way will make up the volume. The chief aim of the compilers is to make the Dictionary useful and suitable to the ordinary man; while lexicographers and literati will find in it a valuable aid. The Dictionary will have 50,000 more words than any other dictionary of the language, and twice the number of words of any single volume dictionary.

The publishers, Messrs Funk and Wagnalls, deserve all the credit and praise they are receiving, for the work is a great enterprise; and no labor and expense is being spared by them to make it what its name implies—the Standard Dictionary of the English language. This will be apparent when we state that the editors are nearly two hundred in number, every one a specialist; an accepted authority in his sphere of labor; men from the front rank of English and American scholars.

The department over which these special editors will preside are, spelling and pronunciation, law, constitutional laws, international law, economics, banking, financial and commercial terms, statistics, astronomy, mathematics and physics, meteorology, zoology, special biological terms, botany, philological terms, anatomy, bacteriology, medicine, chemistry, colors, geology, mineralogy and crystallography, gems and precious stones, building-stones, electricity, metallurgy, evolution, anthropology, etymology, general history, grammar and rhetoric, archæology, heraldry, American history, Biblical terms, theology and philosophy, words derived directly from the Greek, Buddhistic terms, Anglo-Indian and Spanish-American words and phrases, Australian words, aboriginal words, Anglo-African words, terms peculiar to the Pacific slope, deaf-mute terms, art and architecture, music, literature, pedagogy, library terms, naval and nautical terms, military terms, irrigation, handicraft or trade terms, textile terms, Americanisms, also faulty diction, biographical, geographical, scriptural names, etc., noted names of fiction, pseudonyms, etc., animal locomotion, apiary terms, chess, compound words, the eclectic system of medicine, Egyptian terms, United States Frontier terms, the homœopathic system of medicine, Japanese ceramics, mystical philosophy, theosophy, etc., phrenology, postal terms, poultry-quotations, reviews, Scottish terms, semi-political terms, semi-economic terms, Socialism, South African words, special literary critics, synonyms and antonyms, theatrical terms, University degrees, Church terms, new words, etc. Truly, an exhaustive list.

Among a host of commendatory notices of the Standard Dictionary, based on the advance pages submitted of the work, notices from the press and literary celebrities of great Britain and America, we quote a few.

Professor Skeat of Cambridge and Dr. Murray of Oxford, the eminent English lexicographers, were highly pleased with the plan of the Dictionary. Professor Goodell, of Yale University said "This Dictionary will certainly meet many daily needs better than any single volume dictionary in existence." Professor Andrew Peabody, Harvard University: "Will prove of invaluable service, and will last while the English language remains essentially unchanged." Professor R. Ogden Doremus, College of the City of New York: "I am delighted with the principles upon which you are building the Dictionary." Dr. G. Brown Goode, Smithsonian Institution: "Will be to words what we hope the National Museum will some time become to concrete things." Professor A. H. Sayce, Oxford University, "Will deserve the encomia passed upon it." Professor William H. Carpenter, Columbia College, "A valuable addition to the lexicographical material of the language." Professor Theodore W Hunt: "Will be the English people's word book." Professor Edward Dowden, "I am satisfied that the Dictionary will take a place in the highest ranks of works of the kind." The newspaper notices which are innumerable, are quite as commendatory.

The Standard Dictionary will be appreciated in India by all classes; and especially by the large body of Indian students, it must be popular. However, we would suggest that, to meet the wants of Indian students, a cheaper edition than 12 dollars will be found necessary—Indian students are mostly poor.

Government Medical Notifications.

GAZETTE OF INDIA.

No. 792.—Surgeon-Lieutenant-Colonel D. P. MacDonald, M.D., Senior Medical Officer, Port Blair, has obtained privilege leave for three months and fifteen days, with effect from the 7th September 1893.

No. 793.—Surgeon-Captain W. Molesworth, Medical Officer in charge of the Detachment of Native Infantry and Station Hospital, Port Blair, to officiate as Senior Medical Officer in the Settlement, in addition to his own duties, during the absence on privilege leave of Surgeon-Lieutenant-Colonel D. P. MacDonald, M.D.

No. 1421G.—Surgeon-Major H. Hamilton M.D., Indian Medical Service (Bengal), Officiating Medical Officer, 5th Bengal Cavalry, is appointed to the medical charge of the Bundelkhand Political Agency in addition to his Military duties, with effect from the 18th July, 1893.

No. 813.—The undermentioned Surgeon-Lieutenant, appointed to the Bengal establishment in G. G. O. No. 260 of 1893, reported his arrival at Bombay on the date specified:

Thomas Alfred Ollivant Langston,—22nd April 1893.

The Queen has approved of the retirement from the service of the undermentioned officers:

Brigade - Surgeon - Lieutenant - Colonel Griffith Griffith. Dated 1st May 1893.

Surgeon - Lieutenant-Colonel George Gilbert MacLaren, M.D. Dated 27th June 1893.

Surgeon-Colonel William Howland Roberts, M.D. Dated 1st July 1893.

The date of the retirement of Brigade-Surgeon-Lieutenant-Colonel James Byers Thomas, Madras Medical Establishment, has been altered from 1st April 1893 to 12th May 1893.

No. 821.—First grade Assistant Apothecary John Augustus DeRussurriecao to be second grade Apothecary;

Sub-Assistant Apothecary Edward Joseph Archer to be second grade Assistant Apothecary, with effect from the 1st May 1893, *vice* second grade Apothecary O. W. H. Smith, deceased.

No. 3201-G.—The medical charge of the Magistracy Jail at Abu was transferred on the forenoon of the 11th July, 1893, from Third class Hospital Assistant Runchhodlal Viswanath, attached to the Rajputana Agency Hospital, to First class Hospital Assistant Emamuddin, in charge of the Charitable Dispensary at Abu.

No. 19.—Assistant Surgeon Kshetra Pal Chuckerbutty, of the Bengal Provincial Establishment, is permitted to resign the service of Government.

No. 854.—Surgeon-Lieutenant-Colonel A. S. Reid, M. B., Indian Medical Service, Bengal establishment to officiate as medical storekeeper at the presidency, with effect from the 7th August 1893, during tha absence of Surgeon-Major C. J. H. Warden, on deputation.

No. 156.—The undermentioned officers are granted leave to proceed out of India on private affairs under the leave rules for the staff Corps; the specified period to count from the date of being struck off duty.

Surgeon-Captain W. J. Buchanan, M.B.. for one year. Pension service—6th year commenced 5th March 1893.

No. 557.—With effect from the date of assuming charge Surgeon-Colonel J. G. Pilcher is appointed to officiate as Inspector-General of Civil Hospitals, North-Western Provinces and Oudh, during the absence on furlough of Surgeon-Colonel J. Richardson, or until further orders.

No. 572.—The services of Surgeon-Major G. S. A. Ranking M.D., I.M.S. (Bengal), are replaced at the disposal of the Military Department.

No. 868.—Surgeon-Lieutenant G. Bidie, Indian Medical Service, Madras Establishment, officiating medical officer, 4th Infantry, to be officiating medical officer during the absence of Surgeon-Major C. L. Swaine, M.D., who has been appointed to officiate as Sanitary Commissioner, Hyderabad Assigned Districts. Dated 17th July 1893.

No. 869.—Surgeon-Captain C. H. L. Palk, Indian Medical Service, Madras Establishment, officiating medical officer 2nd Infantry, to be medical officer *vice* Surgeon-Major E. M. Damla, who has been appointed to the Medical charge of the Madras Infantry Depot, Pallaveram. Dated 17th July 1893.

No. 20.—Dr. P. R. Hay Jagannadhan, B.A., M.B., C.M., is temporarily appointed as an Uncovenanted Medical Officer, and his services placed at the disposal of the Government of Bengal.

No. 21.—The undermentioned student of the Lahore Medical College is admitted into the service as an Assistant Surgeon, with effect from the date specified:—

Bhagwan Das—26th August, 1893.

No. 3639-G.—Third Class Hospital Assistants Mukand Ram, Ram Sanehi, and Theophilus Rimmel, who have passed their examination in English, are entitled to draw the usual allowance for English qualification, with effect from the 15th April, 1893.

No. 3659-G.—First Class Hospital Assistant Pirbhu Lall, attached to the Raj Dispensary at Tonk, was granted privilege leave for one month from 10th June to 9th July, 1893, and 3rd class Hospital Assistant Hafeez Karim Ahmad was appointed to act for him during his absence.

No. 3660-G.—Third Class Hospital Assistant Abdul Ahud returned on the forenoon of the 25th July, 1893, from the leave granted to him in this office Notification No. 1805-G., dated 25th May, 1893, and 3rd class Hospital Assistant Permanand reverted to the Native States Reserve List from that date.

No. 3662-G.—Second Class Hospital Assistant Myia Singh, attached to the District Jail Hospital at Jeypore, was granted two month's privilege leave from the afternoon of the 1st August, 1893, and 3rd class Hospital Assistant Shib Lall of the Native States Reserve List was appointed to officiate for him.

No. 3663-G.—Third Class Hospital Assistant Geyan Chand, attached to the Futteh Pultan Imperial Service Corps Hospital at Ulwar, was granted two months and 15 days' privilege leave from the afternoon of the 16th August, 1893, and 3rd, class Hospital Assistant Hafeez Karim Ahmad of the Native States List was appointed to act for him.

No. 3664-G.—Third Class Hospital Assistant Runchhod Lall Viswanath, in charge of the Rajputana Agency Hospital at Mount Abu, availed himself of one month's privilege leave from the forenoon of the 24th August, 1893.

No. 3665-G.—Third Class Hospital Assistant Muzhur Husain, attached to the Todgarh Dispensary, was granted privilege leave for 3 months from 10th May to 9th August, 1893, and 3rd class Hospital Assistant Theophilus Rimmel of the Government Reserve List was appointed to officiate for him.

No. 3666-G.—Hospital Assistants Muzhur Ali and Habibur Rahman have been appointed 3rd class Hospital Assistants for Government service, and placed on the Government Reserve List from the 29th July and 23rd August, 1893, respectively.

3667-G.—Second Class Hospital Assistant Luchmon Dass, attached to the Bhilwara Dispensary, was granted one month's privilege leave from the afternoon of the 27th August, 1893, and 2nd class Hospital Assistant Sukhnundon of the Native States Reserve List was appointed to act for him.

N.-W.-P. GAZETTE.

Assistant Surgeon Rashid-ud-din, on reserve duty at Lucknow, to the charge of the Sandila Branch Dispensary in Hardoi.

Assistant Surgeon Ghulam Mushi Mustafa, on reserve duty at Lucknow, to the charge of the Husainabad Branch Dispensary in Lucknow, with effect from the 9th August 1893.

Mr. Senior Apothecary C. Briscoe, in civil medical charge of the Bulandshahr district, privilege leave for one month, with effect from the 15th September 1893.

Assistant Surgeon Gopal Chandra Gupta, in charge of the Bulandshahr Sadar Dispensary, to hold charge of the civil medical duties of the Bulandshahr district, in addition to his other duties, during the absence on leave of Mr. Senior Apothecary C. Briscoe, or until further orders.

With effect from the 1st May 1893, Surgoen-Captain G. H. Baker Officiating Civil Surgeon, to be Civil Surgeon, 2nd class, with grade station Cawnpore, *vice* Brigade-Surgeon-Lieutenant-Colonel G. Griffith, retired and to continue in civil medical charge of the Jhánsi district.

With effect from the 27th June 1893, Surgeon-Captain A. E. Roberts, Officiating Civil Surgeon, to be Civil Surgeon, 2nd class, with grade station Dehra Dun, *vice* Brigade-Surgeon-Lieutenant-Colonel G. G. Maclaren, retired, and to continue in civil medical charge of the Aligarh district.

The late Assistant Surgeon Harra Chandra Das was posted to the charge of the Etah sadar dispensary on his return from the leave granted him by Notification No. 4968—11—55oc, dated 31 October 1892.

C. P. GAZETTE.

No. 73.—On being relieved by Civil Hospital Assistant Abdul Fatha Khan on return from leave, 3rd Class Civil Hospital Assistant Aminudeen, temporarily attached to the Jail and Police Hospital, Seoni, is directed to do duty under the orders of the Civil Surgeon, Seoni, until further orders.

No. 74.—Six months' leave on medical certificate is granted to Civil Hospital Assistant Alla Buksh, doing duty under the orders of the Civil Surgeon, Nagpur.

No. 75.—First Class Civil Hospital Assistant Shaikh Mohideen returned from leave on the 27th July 1893, and did duty at the Brahmapuri Dispensary till the afternoon of the 5th August 1893. He received charge of the Brahmapuri Dispensary from Civil Hospital Assistant Nanak Prashad on the forenoon of the 6th August 1893.

No. 76.—The undermentioned Civil Hospital Assistant, whose services are no longer required with the Public Works Department, is directed to do duty under the orders of the Civil Surgeon, Nagpur:—

Third Class Civil Hospital Assistant Abdul Kareem.

No. 6437.—Assistant Surgeon Malahar Narain Khorde, doing duty under the orders of the Civil Surgeon, Nagpur, is directed to do duty at the Burhanpur Dispensary under the orders of the Civil Surgeon, Nimar, until further orders.

No. 77.—Passed Medical Pupil Mahomed Zahurul Huq, who was reduced to this grade for three months by orders of the Chief Commissioner, Central Provinces, from the 24th April 1893, is restored to his former grade of 3rd Class Civil Hospital Assistant from the 25th July 1893.

No. 78.—The undermentioned Civil Hospital Assistants, doing duty under the orders of the Civil Surgeon, Nagpur, are directed to do duty under the orders of the Civil Surgeon, Sambalpur:—

Third Class Civil Hospital Assistant Bhagwant Deen Misser.

Third Class Civil Hospital Assistant Balvant Laxman.

No. 79.—Third Class Civil Hospital Assistant Dashrathi Pershad Das, of the Police Hospital, Sambalpur, deputed on cholera duty in the Sambalpur District, with effect from the 8th to the 13th August 1893 (both dates inclusive).

Second Class Civil Hospital Assistant Gonesh Pershad, attached to the Main Dispensary, Sambalpur held charge of the Police Hospital, Sambalpur, in addition to his own duties, from the 8th to the 13th August 1893 (both dates inclusive).

No. 80.—Third Class Civil Hospital Assistant Lachman Pershad, doing duty under the orders of the Civil Surgeon, Nagpur, is directed to do duty under the orders of the Civil Surgeon, Bhandara, until further orders.

No. 81.—First Class Civil Hospital Assistant Abdul Fatha Khan, on expiry of the leave granted to him by Notification No. 33, dated the 18th April 1893, is directed to do duty under the orders of the Civil Surgeon, Jubbulpore.

First Class Civil Hospital Assistant Abdul Fatha Khan, doing duty under the orders of the Civil Surgeon, Jubbulpore, is appointed to the Jail and Police Hospital, Seoni.

Third Class Civil Hospital Assistant Aminudeen, temporarily attached to the Jail and Police Hospital, Seoni, on being relieved by Civil Hospital Assistant Abdul Fatha Khan, is directed to do duty under the orders of the Civil Surgeon, Seoni, until further orders.

No. 82.—On being relieved by Civil Hospital Assistant Ram Lal Das Gupta, on return from leave, 3rd Class Civil Hospital Assistant Ramkrishna Lal, temporarily attached to the Main Dispensary, Raipur, is directed to do duty under the orders of the Civil Surgeon, Raipur, until further orders.

No. 83.—Two months' privilege leave is granted to 3rd Class Civil Hospital Assistant Lachman Kesheo, attached to the Betul Branch Dispensary, from the date he is permitted to avail himself of it.

Third Class Civil Hospital Assistant Khalilur Rahman, doing duty under the orders of the Civil Surgeon, Chhindwara, is temporarily posted to the Betul Branch Dispensary.

No. 84.—Second Class Civil Hospital Assistant Ramchander Krishna Chander Ker, attached to the Dhamtari Branch Dispensary, Raipur District, is appointed to the Main Dispensary, Balaghat.

First Class Civil Hospital Assistant Mahomed Yacoob, attached to the Main Dispensary, Balaghat, on being relieved by Civil Hospital Assistant Ramchander Krishna Chander Ker, is appointed to the Dhamtari Branch Dispensary, Raipur District.

BURMA GAZETTE.

No. 379.—Surgeon-Captain T. W. Stewart made over and Surgeon-Captain F. J. Dewes assumed charge of the duties of Civil Surgeon, Minbu district, on the afternoon of the 29th July 1893.

No. 380.—First Grade Hospital Assistant, No. 24, Gajan Chander Chukerbutty, on availing himself of three months' privilege leave, relinquished charge at the Railway Dispensary, Yamethin, on the forenoon of the 5th August 1893.

No. 381.—First Grade Hospital Assistant, No. 27, Hardoyal Dey, on transfer to Maungdaw, Akyab district, relinquished charge at the Civil Dispensary and Jail Hospital, Kyaukpyu, on the forenoon of the 2nd August 1893.

No. 382.—With reference to Notification No. 371, dated the 10 August 1893, Third Grade Hospital Assistant, No. 94, Mahomed Wasil, assumed charge at the Civil Dispensary, Kyaukpyu, on the forenoon of the 2nd August 1893.

No. 383.—Under paragraph 7 of Government of India, Home Department Resolution, No. 16, dated the 9th January 1878, Third Grade Hospital Assistant, No. 94, Mahomed Wasil, assumed charge as an additional duty at the Jail Hospital, Kyaukpyu, on the forenoon of the 2nd August 1893.

No. 384.—The leave granted to Third Grade Hospital Assistant, No. 1190, P. Thoymonsawmy Pillay, in this office Notification No. 349, dated the 27th July 1893, is converted into privilege leave for two months and 22 days, from the 10th May 1893 to the 31st July 1893, both days inclusive.

No. 385.—Third Grade Hospital Assistant, No. 1190, P. Thoymonsawmy Pillay, on return from the leave granted in the above notification, assumed charge temporarily at the General Hospital, Rangoon, on the forenoon of the 1st August 1893.

No. 386.—Third Grade Hospital Assistant, No. 1190, P. Thoymonsawmy Pillay, relinquished charge at the General Hospital Rangoon on the afternoon of the 22nd August 1893, and assumed charge at the Railway Dispensary, Yamethin, on the forenoon of the 5th August 1893.

No. 387.—Third Grade Hospital Assistant, No 627, Ram Lal, on return from the leave granted him in Notification No. 232, dated the 18th May 1893, assumed charge at the General Hospital, Rangoon, on the forenoon of the 8th August 1893.

No. 388.—Third Grade Hospital Assistant, No. 627, Ram Lal, on transfer to Magwe, relinquished charge at the General Hospital, Rangoon, on the afternoon of the 13th August 1893.

No. 389.—C. Rockasawmy Chetti, passed Burma medical pupil is appointed a Third Grade Hospital Assistant with English qualification, and posted to the General Hospital, Rangoon for duty.

No: 390:—With reference to the above notification Third Grade Hospital Assistant C: Rockasawmy Chetti assumed charge at the General Hospital, Rangoon on the forenoon of the 10th August 1893:

No. 393.—Surgeon-Captain C. L. Williams, M.D., made over, and Surgeon-Captain T. W. Stewart assumed, charge of the duties of the Civil Surgeon, Akyab district, on the forenoon of the 12th August 1893.

No. 394.—With reference to Notification No. 381, dated the 17th August 1893, First Grade Hospital Assistant, No. 27, Hardoyal Dey assumed charge at the Civil Dispensary, Maungda, Akyab district, on the forenoon of the 7th August 1893.

No. 395.—Under paragraph 7 of the Government of India Home Department Resolution No. 16, dated the 9th January 1878, Second Grade Hospital Hospital Assistant Ahmed Khan assumed charge as an additional duty at the Jail Hospital Yamèthin, on the afternoon of the 4th August 1893.

No. 396.—Second Grade Hospital Assistant, No. 34, Ram Lall, on transfer to Mônywa, Lower Chindwin district, relinquished charge at the Civil Dispensary, Maungdaw, Akyab district, on the forenoon of the 7th August 1893.

No. 397.—With reference to Notification No. 358, dated the 3rd August 1893, Second Grade Hospital Assistant, No. 130, Pultu Ram assumed charge at the Outpost Hospital, Yawdwin, Pakòkku district on the forenoon of the 12th August 1893.

No. 398.—With reference to Notification No. 344, dated the 20th July 1893. Third Grade Hospital Assistant Maung Aung Pru assumed charge at the General Hospital, Akyab, on the afternoon of the 31st July 1893.

No. 399.—Third Grade Hospital Assistant, No, 77, Gurudass Barna relinquished charge at the Outpost Hospital, Letpanda, Shwebo district, on the forenoon of the 14th August 1893, and assumed charge at the Police Hospital, Shwebo, on the forenoon of the 16th August 1893.

No. 400.—Third Grade Hospital Assistant, No, 84, Purna Chander Ghose, on availing himself of one month and 7 days privilege leave, relinquished charge at the Police Hospital, Myingyan, on the forenoon of the 17th May 1893.

No. 401.—Third Grade Hospital Assistant, No. 84, Purna Chander Ghose, on return from the leave granted in the above notification, assumed charge at the Civil Dispensary, Paletwa Hill Tracts, Northern Arakan, on the forenoon of the 8th July 1893.

No. 402.—With reference to Notification No. 222, dated the 11th May 1893, Third Grade Hospital Assistant No. 656 Moula Buksh, assumed charge at the Jail Hospital, Myingyan, on the afternoon of the 16th May 1893.

No. 403.—Third Grade Hospital Assistant No. 656, Moula Buksh relinquished charge at the Jail Hospital, Myingyan on the afternoon of the 27th June 1893, and assumed charge at the Outpost Hospital, Kyaukpadaung, Myingyan district on the afternoon of the 7th July 1893.

No. 404.—Third Grade Military Hospital Assistant P. G. Manickum made over and Third Grade Military Hospital Assistant M. Thomas assumed charge of the Outpost Hospital, Sigyaing, Katha district, on the afternoon of the 19th July 1893.

No. 405.— (Corrigendum).—In Notification No. 391, dated the 17th August 1893, *for* "Mahomed Anwi" *read* Mahomed Amir."

No. 419.—Under Government of India Home Department No. 506, dated the 16th August 1893, from the Secretary to the Government of India to the Secretary to the Chief Commissioner, Burma, Pensioned Second Grade Apothecary J. Rath is appointed temporarily to the Burma Medical Service and posted to the medical charge of the Military Police Hospital, Mandalay.

No. 420.—With reference to Notification No. 407, dated the 31st August, 1893, First Grade Hospital Assistant, No. 841, M. Coopoosawmy Pillay assumed charge at the Jail Hospital Bassein, on the forenoon of the 29th August 1893.

No. 421.—First Grade Military Hospital Assistant, No. 1008, J. Philip made over, and Second Grade Military Hospital Assistant No. 1208, A. Govindaswamy Pillay assumed, medical charge of the Shore Hospital, Mandalay, on the forenoon of the 1st September 1893.

No. 422.—Under Government of India Home Department Resolution No. 16, dated the 9th January 1878, Second Grade Hospital Assistant, No. 151, Tatia Khandoji assumed, as an additional duty, charge of the Civil Hospital, Myitkyina, Mogaung subdivision, on the forenoon of the 1st May 1893.

No. 423.—Third Grade Hospital Assistant, Mahomed Roshan on availing himself of three months' privilege leave, relinquished charge at the Outpost Hospital, Mohein, Ruby Mines district, on the afternoon of the 27th July 1893.

No. 424.—With reference to Notification No. 363, dated the 3rd August 1893, Third Grade Hospital Assistant Sundar Singh assumed charge at the Outpost Hospital, Mobein, Ruby Mines district, on the afternoon of the 27th July 1893.

No. 190.—Surgeon-Captain C. W. Johnson, I. M. S., is appointed to be Civil Surgeon of the Meiktila district, in addition to his Military duties, *vice* Surgeon-Captain J. W. Wolf.

No. 191.—Surgeon-Captain T. W. Stewart is transferred from Minbu to Akyab to be Civil Surgeon *vice* Surgeon-Captain C. L. Williams, whose service have been replaced at the disposal of the Government of Madras.

No, 192.—Surgeon-Captain Frederick Joseph Dewes, I. M. S., whose services have been placed temporarily at the Chief Commissioner's disposal was on arrival in Burma posted as Civil Surgeon to Minbu, *vice* Surgeon-Captain T. W. Stewart, transferred.

No. 406.—First Grade Hospital Assistant, No. 50, Salik Ram, on transfer to Fort Stedman, Southern Shan States, relinquished charge at the Railway Dispensary, Pyinmana, on the afternoon of the 20th August 1893.

No. 407. First Grade Hospitat Assistant, No. 841, M. Coopoosawmy Pillay, on transfer to Bassein, relinquished charge at the Reserve Military Police Battalion, Pyawbwè, Yamèthin district, on the afternoon of the 22nd August 1893.

No. 408.—Second Grade Hospital Assistant No. 511, Syed Mahomod Abdus Sattar, relinquished charge at the Outpost Hospital, Wundwin Meiktila district, on the forenoon of the 20th August 1893 and assumed charge at the General Hospital, Rangoon, on the forenoon of the 27th August 1893.

No. 409.—Second Grade Hospital Assistant, No. 157, Ram, aya Nagappa, on transfer to the Upper Chindwin district relinquished charge at the Police Hospital, Minbu on the afternoon of the 10th August 1893.

No. 410.—Under paragraph 7 Government of India, Home, department Resolution No. 16, dated the 9th January 1878 Second Grade Hospital Assistant Ahmed Khan assumed as an additional duty charge of the Jail Hospital, Yamèthin, on the afternoon of the 4th August 1893.

No. 411.—Third Grade Hospital Assistant, No. 1215, C. J. Packium Pillay; relinquished charge at the Outpost Hospital. Mahlaing, Meiktila district, on the afternoon of the 17th August 1893, and assumed charge at the Outpost Hospital, Wundwin, Meiktila district, on the forenoon of the 20th August 1893.

No. 412.—Third Grade Hospital Assistant Syed Mahomed Abdul Shakur relinquished charge at the Public Works Department, Pyinyaung, Shan States on the afternoon of the 15th August 1893, and assumed charge at the Reserve Military Police Battalion, Pyawbwe, Yamèthin district, on the afternoon of the 22nd August 1893.

No. 413.—Third Grade Hospital Assistant, No. 118, Bistoo Charn Dass, relinquished charge at the General Hospital, Mandalay, on the forenoon of the 1st August 1893 and assumed charge at the Outpost Hospital, Twinngè, Ruby Mines district, on the forenoon of the 14th August 1893.

No. 414.—Third Grade Hospital Assistant Gunga Sahai, on availing himself of three months privilege leave, relinquished charge at the Outpost Hospital, Twinngè, Ruby Mines district, on the forenoon of the 14th August 1893.

No. 415.—Third Grade Hospital Assistant, No. 100, Pyahri Mohun Barna, on return from leave granted him in Notification No. 306, dated the 6th July 1893, assumed charge at the Jail Hospital, Insein, on the afternoon of the 26th August 1893.

No. 416.—Third Grade Hospital Assistant, No: 69, Mahomed Naziruddin, relinquished, charge at the Outpost Hospital Myittha, Shwebo district, on the forenoon of the 19th August 1893 and assumed charge at the Police Hospital, Shwebo on the forenoon of the 24th August 1893.

No. 417.—Third Grade Hospital Assistant, No. 89, Gokul Nand Mahanty, relinquishd charge at the Base Hospital, Talawgyi, Bhamo district, on tbe afternoon of the 6th March 1893, and assumed charge at the Military Police Kyaukkwè column, Bhamo district, on the forenoon of the 7th March 1893.

No. 418—Third Grade Hospital Assistant, No. 89, Gokul Nand Mahanty, relinquished charge at the Military Police, Kyaukkwè column Bhamo district, on the forenoon of the 2nd April 1893 and assumed charge at the Police Hospital, Bhamo, on the forenoon of same date,

No. 31.—Surgeons-Captain C. L. Williams, M. D., and T. W. Stewart respectively made over and assumed charge of the executive and medical charge of the District Jail at Akyab on the forenoon of the 12th August 1893.

No. 425.—With reference to Notification No. 388, dated the 17th August 1893, Third Grade Hospital Assistant, No. 627, Ram Lal assumed charge at the Police Hospital, Magwe, on the afternoon of the 16th August 1893.

No. 426.—Third Grade Hospital Assistant, No. 1198, M. S. Munisawmy Naidu, on return from the privilege leave granted him in Notification No. 271, dated the 15th June 1893, assumed charge temporarily at the Jail Hospital, Insein, on the forenoon of the 5th September 1893.

No. 427.—Third Grade Hospital Assistant, No. 1193 P. V. Govindarajoo Moodelly relinquished charge at the Mandalay-Kunlon Railway Survey, Mandalay, on the afternoon of the 21st May 1893, and assumed charge at the Police Hospital, Bhamo, on the afternoon of the 15th June 1893.

No. 428.—Third Grade Hospital Assistant, No. 1193, P. V. Govindarajoo Moodelly, on availing himself of 34 days' privilege leave, relinquished charge at the Police Hospital, Bhamo, on afternoon of the 23rd July 1893.

No. 429.—Third Grade Hospital Assistant, No. 1193, P. V. Govindarajoo Moodelly, on return from the leave granted to him in the above notification, assumed charge at the Police Hospital, Minbu, on the afternoon of the 26th August 1893.

No. 430.—Third Grade Hospital Assistant, No. 1193, P. V. Govindarajoo Moodelly relinquished charge at the Police Hospital, Minbu, on the afternoon of the 28th August 1893, and assumed charge at the Outpost Hospital, Pwinbyu, Minbu district, on the forenoon of the 30th August 1893.

No. 207.—Surgeon Captain J. W. Wolfe, Civil Surgeon, Meiktila, is transferred to Rangoon and is appointed to officiate as Superintendent of the Rangoon Central Jail, *vice* Surgeon-Captain J. H. Sellick, transferred.

No. 208.—Under the provisions of Article 369 of the Civil Service Regulations leave on medical certificate for six months is granted to Local Assistant Surgeon Maung Po Kyaw, with effect from the date on which he may avail himself of it.

No. 431—With reference to Notification No. 396, dated the 24th August 1893, Second Grade Hospital Assistant, No. 34, Ram Lal assumed charge at the Civil Dispensary, Monywa, Lower Chindwin district, on the forenoon of the 29th August 1893.

No. 432.—Under paragraph 7 of Government of India, Home Department Resolution No. 16, dated the 9th January 1878, Second Grade Hospital Assistant, No. 34, Ram Lal assumed, as an additional duty, charge of the Jail Hospital, Monywa, Lower Chindwin district, on the forenoon of the 19th August 1893.

No. 433.—Second Grade Hospital Assistant, No. 1161, M. E. Jonathan, on re-transfer to the Military Department, Madras, relinquished charge at the Police and Jail Hospitals, Pakokku, on the afternoon of the 31st August 1893.

No. 434.—Second Grade Hospital Assistant, No. 88, Gulam Mustafa, on transfer to Lashio, relinquished charge at the Civil Dispensary Yenangyaung, Magwe district, on the forenoon of the 30th August 1893.

No. 435.—Third Grade Hospital Assistant, No. 119, Shyam Kishore Dey on transfer to Bhamo relinquished charge at the Outpost Hospital, Pwinbyu, Minbu district, on the forenoon of the 30th August 1893.

No. 436.—Third Grade Hospital Assistant, No. 1188, A. Jesudasen relinquished charge at the Outpost Hospital Yawdwin, Pakokku district, on the forenoon of the 12th August 1893, and assumed charge at the Police Hospital, Pakokku, on the afternoon of the 31st August 1893.

No. 437.—Under paragraph 7 of the Government of India, Home Department Resolution No. 16, dated the 9th January 1878, Third Grade Hospital Assistant, No. 1188, A. Jesudasen assumed, as an additional duty, charge of the Jail Hospital, Pakokku, on the afternoon of the 31st August 1893.

No. 438.—Third Grade Hospital Assistant, No. 627, Ram Lal relinquished charge at the Police Hospital, Magwe, on the afternoon of the 28th August, 1893, and assumed charge at the Civil Dispensary, Yanangyaung, Magwe district, on the forenoon of the 30th August 1893.

No. 439.—Third Grade Hospital Assistant, No. 59, Abdul Gunnee relinquished charge at the Police Hospital, Myingyan, on the forenoon of the 29th August 1893, and assumed charge at the Outpost Hospital, Kyaukpadaung, Myingyan district, on the forenoon of the 4th September 1893.

No. 440.—Third Grade Millitary Hospital Assistant, No. 1251, T. Perianayagam Pillay, on transfer for temporary service in the Civil Medical Department, Burma, reported his arrival and was posted to the Katha district for duty.

No. 441.—With reference to the above notification Third Grade Hospital Assistant, No. 1251, T. Perianayagum Pillay assumed charge at the Police Hospital, Katha, on the forenoon of the 24th August 1893.

No. 442.—With reference to Notification No. 378, dated the 10th August 1893, Third Grade Hospital Assistant No. 126, Jogendra Nath Roy Chowdry relinquished charge at the Bankipore Hospital, on the afternoon of the 9th July 1893, and assumed charge at the General Hospital, Rangoon, on the forenoon of the 24th July 1893.

No. 443.—Third Grade Hospital Assistant, No. 126, Jogendra Nath Roy Chowdry, relinquished charge at the General Hospital, Rangoon, on the forenoon of the 11th August 1893, and assumed charge at the Outpost Hospital, Mahlaing, Meiktila district, on the 17th August 1893.

No. 444.—Third Grade Military Hospital Assistant, No. 1246, T. A. Ramachandrum, on transfer for temporary service in the Civil Medical Department, Burma, reported his arrival and was posted for duty under the Medical Officer, Burma State Railway.

No. 445.—With reference to the above notification Third Grade Hospital Assistant, No. 1246, T. A. Ramachandrum assumed charge at the Railway Dispensary, Pyinmana, on the afternoon of the 20th August 1893.

THE ASSAM GAZETTE.

No. 8434G.—Privilege leave of absence for one month and fifteen days, under article 291 of the Civil Service Regulations, is granted to Third Grade Assistant-Surgeon Pramatha Nath Banarji, with effect from the 1st September 1893.

No. 135.—The undermentioned Hospital Assistant has passed the English Qualification Examination according to the test laid down in G. G. O. No. 945, dated the 10th October 1868:

Rank and Name.	Date of Rank.	Date of passing the English Qualification Examination.
Third-Grade Hospital Assistant Mohim Chandra Datta.	12th July 1893.	20th August 1893.

No. 136.—Third Grade Hospital Assistant Nabin Chandra Das, in temporary medical charge of the Baniachong Dispensary in the Sylhet district, is, on relief, transferred to Cachar as Supernumerary for duty under the orders of the Civil Surgeon there until further orders.

This cancels Medical Department Notification No. 127, dated the 3rd August 1893, and No. 132, dated the 17th August 1893, published in the *Assam Gazette* of the 5th and 19th August 1893, respectively.

No. 137.—The undermentioned Hospital Assistant has passed the English Qualification Examination according to the test laid down in G. G. O. No. 945, dated the 10th October 1868.

Rank and Name	Date of Rank	Date of passing the English Qualification Examination.
Third-Grade Hospital Assistant Aditya Mohan Das Gupta.	7th December 1892.	21st August 1893.

India Office, the 1st August.—The Queen has approved of the following promotions of the officers of Staff Corps and Indian Medical Services, and admissions to the Staff Corps, made by the Governments in India:

* * * *

Harley McAlpine Johnston

* * * *

No. 138.—Privilege leave of absence for one month, under article 291 of the Civil Service Regulations, is granted to First-grade Hospital Assistant Mir Subdar Ali with effect from the date he is relieved of the subordinate medical charge of the Shillong Dispensary and previous to his proceeding to join his appointment at Fort Aijal, *vide Assam Gazette* Medical Department Notification No. 134, dated the 17th August 1893.

No. 139.—First-grade Hospital Assistant Hari Prasad, in medical charge of the Silchar Jail and Police, was temporarily appointed to the subordinate medical charge of the Silchar Charitable Dispensary, together with the Coolie Depôt there in addition to his own duties, with effect from the 15th to the 20th July 1893, both days inclusive.

No. 140.—Second-grade Hospital Asst. Amir Uddin, a Supernumerary in the Lakhimpur dist, is appointed to the medical charge of the Poba Military Police outpost in that district.

No. 141.—Third-grade Hospital Assistant Krishna Prosad Sen, in medical charge of the Poba Military Police outpost in the Lakhimpur district, is, on relief, transferred to the Sibsagar district, and is appointed to the subordinate medical charge of the Sibsagar Jail and Police Hospitals from the date of taking over charge of the same.

No. 142.—Third-grade Hospital Assistant Nabin Chandra Datta, in subordinate medical charge of the Sibsagar Jail and Police Hospitals, is on relief, transferred to the Lakhimpur district as a Supernumerary in that district.

No. 143.—Sick leave for six months, under article 893 of the Civil Service Regulations, is granted to Third-grade Hospital Assistant Nil Kanta Sen, in medical charge of the Nokhola Dispensary in the Nowgong district, with effect from the 5th September 1893.

No. 144.—Third-grade Hospital Assistant Bir Chandra Sen, a Supernumerary at Sibsagar, is transferred to Nowgong, and is appointed temporarily to the medical charge of the Nokhola Dispensary in that district, during the absence on sick leave of Third grade Hospital Assistant Nil Kanta Sen, or until further orders.

No. 145.—Third-grade Hospital Assistant Rajendra Kisor Chakravarti, Supernumerary at Dhubri, is temporarily transferred to the Cachar district for special duty under the orders of the Civil Surgeon there.

No. 146.—Third-grade Hospital Assistant Jadab Gobinda Biswas, in medical charge of the Tamlu Military Police outpost in the Naga Hills district, is, on the completion of his present duty, appointed as a Supernumerary Hospital Assistant for duty under the orders of the Civil Surgeon of that district.

No. 147.—Sick leave for three months, under article 893 of the Civil Service Regulations is granted to Third-grade Hospital Assistant Rajanikanta Karmaker, in medical charge of the Roha Dispensary in the Nowgong district, with effect from the date on which he may be relieved of his duties.

No. 148.—Third-grade Hospital Assistant Chandra Kisor Sen (2nd), a Supernumerary in the Kashi and Jaintia Hills district, is transferred to the Nowgong district and is appointed to the medical charge of the Roha Dispensary in that district.

G. O. C. C.

722. The undermentioned passed the lower standard examination in Hindustani on the 3rd and 10th July 1893:—

Surgeon-Captain	R. Bird ...	Indian Medical Service.
,,	,, C. Duer ...	,, ,, ,,
,,	,, W. Henvey...	,, ,, ,,
,,	,, L. P. Mumby	,, ,, ,,
,,	,, J. Thomson	,, ,, ,,
Surg.-Lieut.	H. G. Melville ...	Indian Medical Service.
,,	,, B. G. Seton ...	,, ,, ,,
,,	,, P. B. Haig ...	,, ,, ,,
Sub-Asst. Apothy.	W. C. MacMillan.	Sub-Medical Department.
,,	,, J. S. Herring	,, ,, ,,

724. The undermentioned officers of the Army Medical Staff having been nominated to return to England will be detailed by the Principal Medical Officer in India for duty with troops on the homeward voyages during the trooping season of 1893-94.

Brigade-Surgeon-Lieutenant-Golonel	C. White.
,, ,, ,, ,,	T. O'Reilly.
,, ,, ,, ,,	T. J. P. Holmes, M.B.
Surgeon-Lieutenant-Colonel	W. J. Fawcett, M.B.
Surgeon-Major	L. B. Ward.
,, ,,	J. Powell.
,, ,,	E. O. Reynolds.
,, ,,	J. Stevenson, M.B.
,, ,,	R. Porter, M.B.
Surgeon-Captain	M. W. Russell.
,, ,,	C. A. Lane, M.B.
,, ,,	J. G. Black, M.D.
,, ,,	J. Fayrer, M.B.
Surgeon-Captain	D. M. Saunders, M.D.
,, ,,	H. A. Cummins, M.D.
,, ,,	G. Bent.

Surgeon-Captain G H. Barefoot.
" " F. R. Newland, M.B.
" " E. S. Marder.
" " C. W. Allport, M.D.
" " J. J. Russell, M.B.
" " J. S. Edye.
" " A. L. F. Bate.
" " W. J. Trotter.
" " T. Du B. Whaite, M.B.
" " J. C. Morgan.

750. The leave to Kashmir and Chumba on private affairs, granted to Surgeon-Lieutenant-Colonel H. Boyd, 45th Bengal Infantry, G. O. C. C. No. 345 of 1893, is extended to the 5th August 1893 inclusive.

773. 1st Grade Apothecary G. Wilson is granted six months' leave in India on medical certificate, under furlough rules of 1898.

774. In supersession of G. O. C. C. No. 522 of 1893, 2nd Grade Apothecary A. D'Silva is granted three months' leave in India on medical certificate, on full pay under Rule X note (1) of the Furlough Rules of 1875.

The name of 2nd grade Assistant Apothecary Hefferman will be transposed in the list of his rank and stand next below that of 2nd grade Assistant Apothecary Edward Archer.

Domestic Occurrences.

BIRTHS.

Hewan.—At Joyhing, Assam, on August 27, 1893, the wife of J. Hewan, M.R.C.S., L.R.C.P.E., of a son.

Walker.—On 3rd September, at Walajabad, Madras, the wife of Dr. W. Walker, M.B., C.M., of a daughter.

MARRIAGES.

Comins—Grimley.—At St. Paul's Cathedral, Ranchi, on August 28, 1893, by the Right Revd. the Bishop of Chota Nagpore assisted by the Revd, F. C. Boyd, Surgeon-Major Deane Comins, Inspector-General of Jails, Bengal, to Dora Violet, second daughter of W. H. Grimley, Esq., Commissioner of Chota Nagpore.

Latham—Maitland.—At St. George's, Ramsgate, on August 15, 1893 Francis Law Latham, of Gad's Hill Place, near Rochester, Advocate-General of Bombay, to Clara, daughter of Gilbert G. W. Maitland, Surgeon-General, (Retired), Indian Army.

Mackay—Gordon.—On the 23rd August, at St. Jude's Southsea, Henry Forbes Mackay, Lieut, Royal Marine Artillery, youngest son of Deputy Surg-Genl. G. Mackay M. D., Madras Army Ret. to Margaret Evelyn, eldest daughter of Major L, Gordon, late Madras Cavalry, of Crescent Lodge, Southsea.

Poynder—Trimnell.—On the 23rd August, at St. Mathew's Bayswater, John Leopold Poynder, Surgeon-Major H. M. Ind. Med. Dept, to Cecilia Maria, widow of the late Dy-Surgeon-General D. W. Trimnell, H. M. I. M. S, and daughter of the late Capt. A. Merewether, Indian Army.

Robinson—Magennis—On the 23rd August, at the Parish Church, Bolsover, Derbyshire, by the Rev. T. C. Hills, Vicar, Surgeon-Captain William Henry Banne, I. M. S., 34th Pioneers, Meean Meer, Punjab, eldest son of the late Captain Vallency Robinson, R N., to Beatrice Annie Kathleen, youngest daughter of the late John Alexander Magennis, Surgeon, A. M. D.

DEATHS.

Brown.—On the 29th August, at Folkestone, A. T. Brown, M.B.B.S., F.R.C.S., son of Dr. Burton Brown, C.I.E., late I.M.S.

Barclay.—On the 13th August, at Goring-on-Thames, Mabel Dorothea, the youngest daughter of the late Surg-Gen. Charles Barclay, Madras Medical Service.

Collins—On the 20th August, at Stroud, John Charles Collins, Surgeon-Major, Retired List, Bengal Medical Service.—aged 71 years.

Renton.—On the 23rd August, at Edinburgh, Major-Genera Robert Renton, late Madras Staff Corps, eldest son of the late R. Renton, M.D., of Edinburgh.

Sprague.—On 19th August 1893, at Rajkote, Allan Carr, the infant son of Surgeon-Lieutenant W. Carr Sprague, 23rd Bombay Infantry, aged 8 months.

Summers.—On the 31st August, at Aberdeen, John Summers, Esq, M.D., Surgeon-General, retired.

Woodforde-Finden.—Ward.—On the 17th September, at the Cathedral, Bombay, by the Rev. A. York Brown, Chaplain, Brigade-Surgeon-Lieutenant-Colonel Woodforde-Finden, I. M. S., to Amy, youngest daughter of Mrs. Ward of Hereford-square, South Kensington, and the late Alfred Ward, Esq., of Valparaiso, Chili.

Acknowledgments.

ANSWERS TO CORRESPONDENTS.

P. N. G.—See our issue for June last.

Military Student.—We regret we could not insert all you sent us in this issue. We have inserted it, however, in a condensed form.

Native States Reserve List.—Send us the paper, and we will insert it in our next issue.

Sanitary Reform.—Send your suggestions to the Health Officer.

R. C. P.—There are two Surgeons-General in Simla. One is denominated Surgeon-General, Her Majesty's Forces, and the other Surgeon-General with the Government of India. The latter is the one you should address in this matter.

J. S. P.—You must excuse us. We cannot do any thing of the sort.

L. S. A.—Try the Provincial Government.

A. E. B.—Many thanks.

Register.—We heartily coincide with your views, but we believe the chief difficulty in the way of Government carrying out this most necessary reform, is the question, of how to deal with those who practise the native systems of medicine.

Medical Certificates.—Your certificate is quite as valid as that of the Government officer, this is a matter that wants plenty of ventilation.

Communications have been also received from.—Brigade-Surgeon-Lieutenant-Colonel J. Forbes Keith, M.D., C.M., Hyderabad, Sindh; Surgeon-Captain B. D. Basu I.M.S. Ahmedabad; Dr. R. N. Bhadurji M.D., Bombay; Dr. Balachandra Krishna, Bombay; D. Robertson, W.M.O., Ootacamund; H. W. Foscholo, W.M.O., Calcutta; Dr. A. P. Dass, L.M.S., Calcutta; Dr. R. P. Banerjee B.A., G.B.M. S.L., Pachbadra, Rajputana; Dr. T. M. Shah, State Medical Officer, Junagadh; Dr. Leonard A. Bidwell, London; Dr. N. C. Mittra, Ranchi; Dr. Sripati Sahai, Mau, Jhansi; Dr. B. S. Maneckji, Broach; Dr. Friedmann, Paris; Maharaja Sir Narendra Krishna, Calcutta; Dr. R. N. Ghosal, Barisal; Dr. A. Basu, M.B., Calcutta; Dr. R. S. Poredi, Akalkote; Dr. D. J. Khanka, Pindi Ghele; Dr. Gupta, Barisal; Secretary Royal College of Surgeons, London; Secretary, Royal College of Physicians, London; S. J. Cotton, Esq., Private Secretary to the Lieutenant-Govornor of Bengal, Darjeeling;

C. H. Bompas, Esq. Offg. Under-Secretary to the Government of Bengal, Calcutta; A. E. Baptist Esq., Mily. Student, Medical College, Calcutta; A. S. McCurtis, Esq., Military Student, Medical College, Calcutta; Hospital Assistant M. D. Pillai, Akola; Dr. U. Sen, Chittagong; Dr. John A. Benson M.D., Chicago; Surgeon-Captain W. B. Lane I.M.S. Chilas; A. E. Shorter, Esq., Garden Reach, Calcutta; Hospital Assistant J. Lazarus, Mandalay; Dr. Lennox Moore, London; Dr. Wright, London; Dr. Green, London; Dr. J. C. Day, M.B., Assam; Dr. V. J. Pillai, Madras; Dr. A. L. Sandel, M.B. Calcutta; Dr. S. O. Moses, L.R.C.S.E., Calcutta; Dr. S. M. Richards, Phalera, Rajputana.

Periodicals.—The Lancet—The British Medical Journal—The Edinburgh Medical Journal—Indian Medical Gazette—Journal de Mèdicine de Paris—Modern Medicine—Australian Medical Journal—The Sanitary Journal—The Medical and Surgical Journal—The Medical Times and Register—The Lancet-Clinic—The Medical Bulletin—The Medical and Surgical Reporter—The New York Medical Journal—The Family Doctor—The Medical Week—Health Messenger—Health—The Medical Record—British and Colonial Druggist—Chemist and Druggist—The Medical Review—New Orleans Medical and Surgical Journal—The Medical Monthly—The Scalpel—The Humanitarian—The Popular Science Monthly—The Sanitary Record—The Medico-Surgical Bulletin—The Southern Medical Record.—The Sanitarian—Doctor's Weekly—The Post Graduate—The Therapist—The Universal Medical Journal—The Medical Compend—The Medico-Chirurgical Review—The Medical Fortnightly—Notes on New Remedies.—The American Therapist.

Books received.—The Baby, By S. O. Moses, L.R.C.S.E., L.F.P.S.G., (Thacker Spink & Co., Calcutta)—Advance pages of the Standard Dictionary, By 200 renowned Editors (Funk and Wagnalls, New York)—The Eighth Annual Report of the Indian National Congress (India Press, Allahabad)—

Government Gazettes.—Gazettes of the Government of India, N. W. P. and Oudh, Burmah, Central Provinces, and Assam—G. O. C. C.

Newspapers.—The Broad Arrow—The Home News—The Indian Daily News—The Statesman—The Eastern Guardian—The Evening Star—Newman's Bradshaw—Hope—The East—Bombay Native Opinion—The Bangalore Spectator—Nagpur and Berar Times—Progress—Punjab Patriot—Arrakan News—Rangoon Gazette Weekly Budget—The Express—Madras Advertiser—Behar Herald and Indian Chronicle—Bombay Guardian—Banner of Asia—Tribune—Beluchistan Gazette—Western Wit and Wisdom—Indian Empire—Gwalior Gazette—Eurasian Recorder—People's Friend—India Watchman—Messenger of Light—Indian Nation—Indian Union—Poona Observer—National Guardian—Indian Engineering—Courier—The Argus—The Bengal Times—Signs of the Times—The Indian Textile Journal—The Amrita Bazaar Patrika (Weekly Edition)—The Kathiawar News.

Notices.

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Original Articles.

SATURATING INHALER—AN APPARATUS FOR THE TREATMENT OF DISEASES OF THE RESPIRATORY ORGANS.

BY DR. DELTHIL.

(Translated for the *Medical Reporter* from the *Journal de Médicine de Paris.*)

The common object of all the instruments invented in this respect is to concentrate gas, and to lead it by means of a tube, so as to facilitate absorption and to partially replace the medicated atmosphere which may cause inconvenience.

The simple apparatus is a bottle with two tubes, one inside the bottle acting as a plunger, and the other fixed in the top of the bottle in such a way that by breathing into the tube, the outside air passes through the liquid into the bottle, and returns to the respiratory organs charged with the volatile elements. But this apparatus has innumerable disadvantages, as for instance the closing of the mouth of the bottle by means of a cork which is not durable—(gutta-percha being soluble). The inhaling fluid, which is prepared to suit each case, is either weak *hydrocarbons*, essences, iodozone, or other volatile substances which lose their property if the bottle be not properly corked. As a matter of fact the bottle can never be hermetically closed for fear of inward pressure by the temperature. If by some mishap the patient breathes into the tube, the liquid will run up the plunger and flow out. Further, to saturate the air the patient must breathe in such a way as to keep the fluid at a certain level in the plunger, which necessarily fatigues the patient who is already weak. It is sometimes desirable to put the breathing tube in direct communication with the nose and mouth of the patient by means of a mask specially constructed, and as this mask cannot be sealed up hermetically, the power of respiration becomes less. Lastly, the worst defect is that the expelled air returns to the bottle, adulterates its contents, and is apt to make the liquid flow out.

The first apparatus was studied with the object of removing the defects noticed above, that is, to devise means to close the mouth of the bottle to prevent the possibility of evaporation; to prevent pressure in the interior; to prevent the flowing out of the liquid, so as to reduce the effort in breathing, and to prevent the expelled air from returning to the apparatus.

Closing by a stopper.—The glass vessel which is rounded on the top is fitted with a screw-top, which is furnished with a round piece of leather.

Impossibility of evaporation.—Because both the clappers or valves remain closed up when the bottle is not being used.

Impossibility of pressure in the interior.—Because, if by an elevation of temperature, the pressure in the interior is raised, the two clappers or valves will rise until the pressure becomes equalized by atmospheric pressure.

Impossibility of the liquid ever flowing from the plunger.—Because when air is blown into the tube, one clapper or valve lifts itself and establishes a communication with the exterior, while the other remains stationary.

No exertion in breathing.—I generally plunge the tube more or less into the liquid in order to obtain a complete saturation of the air, but in cases where the patient is weak I hold the liquid low enough so as to prevent any resistance. I then place in the bottle some prepared sponge in which the liquid rises partially. The sponge remains always impregnated and the air circulates easily, changing the volatile substances which are incessantly being removed by the absorbing properties of the sponge.

Expelled air cannot return to the apparatus.—For the simple reason that by blowing, one valve remains closed while the other is raised and allows the escape of the expelled air.

The working of the apparatus is easily understood. The necessary or prescribed liquid is poured into the vessel from the opening at the screw on to the sponge, until a reserve of a few centimetres from the bottom of the receptacle is reached. The patient breathes into the flexible tube which may be of any length. The valve which prevents the overflowing remains closed while the breathing valve opens, and absorption of the saturated air in the vessel takes place, producing a partial vacuum, under the influence of which the atmospheric pressure forces the ambient air to the bottom of the vessel. This air is saturated in passing through the fluid and the sponge, and thus remains in reserve in the empty space in the bottle, ready to be inhaled.

The inhaling apparatus may either be held in the hand or placed on any table near the patient with a flexible tube connection with the patient's mouth. But in cases where the operation is to be of long duration each time, and in order not to keep the patient in one position, or to prevent his moving about, I have invented another light apparatus which can be used while travelling or working. It is a sort of short pipe in the form of a cylindrical box which is used in the following manner. The prescribed liquid which is kept in reserve in a bottle, is poured over the sponge in a sufficiently large quantity. To do this, it is only necessary to remove the cork and then pour the liquid into the bottle without draining the sponge which should always remain wet with the liquid at the bottom of the box. In breathing through the tube, the air passes through the sponge and the liquid, enters the reservoir in a saturated state, and from thence returns into the respiratory organs by the tube. The end of the breathing tube may according

to circumstances, be furnished with a mask, which may take in both the nose and the mouth or each separately. The liquids I use are oxygenated oils, to which is added iodol, or iodoform and ether.

THE THERAPEUTIC VALUE OF OXYGEN INHALATION.

By A. C. Basu M.B.
Lecturer in Anatomy, Medical School, Calcutta.

(Continued from page 260, Vol. II.)

The second case, which I attended with Dr. Prandhan Bose, was a baby 1½ years old. It was a hand-fed female child, ill with cold, fever, and diarrhœa. There was a history of scrofula and of purpura in the family. The child was of very weakly constitution, so much so, that raising the body by the arms caused blueness of the lower extremities. From the latter part of December 1892 to the beginning of March 1893, she had had three successive attacks of broncho-pneumonia. It was during the third attack, on the night of the 10th March, that oxygen was tried. Her condition was then very critical. Almost the whole of the left lung and a large portion of the right were affected. Temperature 103°4 F; pulse 180, very small, irregular, and compressible; respirations 84, shallow and irregular. Face cyanotic and bathed with a cold perspiration, and the extremities blue and cold. The patient was very restless. The extremities were getting stiff every now and then, and low nervous symptoms were developed. The case was admittedly hopeless. Yet, soon after the administration of oxygen, the respiration became regular and deeper, the pulse improved in character, and the coldness and cyanosis disappeared altogether. After about an hour's administration the pulse fell to 160 and the breathing to 70.

11 March.—M. Temp: 102°F; respirations 70. Ev. Temp: 100-4, pulse 144; respirations 60, less shallow. Had eight stoo's during the last 24 hours. (The patient had been suffering from diarrhœa for more than a week.)

12 March.—Highest temperature 103° F. at 11 A. M. Pulse 144; breathing 65. Ev. Temp: 102°.2 F; pulse 132; respirations 50. Six stools. Taking food well.

13 March.—Slept soundly the whole of last night. M. Temp: 102°.4 F; pulse 132; respirations 52, child disposed to play. Cough loose; crepitations larger. Ev. Temp: 100.4; pulse, 128; respirations 52. Several scanty stools.

14 March.—M. Temp: 100·6; pulse 132; respirations 50; Ev. Temp: 99°2 F; pulse 128; respirations 48; 4 stools. Taking food well. Some hopes entertained of her ultimate recovery.

15 March.—Very restless night. M. Temp: 100°.2 F.; pulse 144; respirations 56. At 12-30 the abdomen became very tympanitic and continued so till 3 P. M. During the afternoon her condition was bad, coldness and cyanosis appeared whenever the oxygen inhalation was stopped. Ev. Temp: 99° F; pulse 152, very soft; breathing 64, shallow; no cyanosis; extremities still cold. Has taken very little nourishment during the day. Three stools.

16 March.—M. Temp: 100° F; pulse 148; respirations 64, less shallow; no lividity or coldness. Tonsils inflamed; crying often; refuses food. Ev. Temp: 98°6 F. Pulse 132; respirations 60; no cyanosis or coldness. Oxygen was used without intermission during the whole of the day.

On the 17th her condition became extremely bad and she expired at about 2-30 P. M.

These two cases require no lengthy comment. The almost incredible action of oxygen in relieving dyspnœa with its attendant signs and symptoms was amply proved in both. In the second case it served, I believe, to prolong life. The stimulating action on the heart and the increase of appetite were probably secondary to proper oxygenation of the blood.

Some difficulty may be experienced in procuring the gas. In Europe and America, where it is very largely used, it may be had at any chemist's. But the case is otherwise in this country. To obtain oxygen in sufficient quantity is very difficult here. Condensed oxygen in iron jars may now and then be had, but the supply is uncertain and the cost excessive. I found it less costly to have it prepared at the patient's place as I had done in both of my cases. The apparatus required are a glass retort (or a glass flask fitted with a bent glass tube), glass tubes, india-rubber tube, a retort stand, a piece of wire-gauze, one spirit lamp and two or more gasholders. Chlorate of potash when heated gives off its oxygen. If a fourth or fifth part of its weight of black oxide of manganese (Manganese Dioxide) * be mixed with it, the oxygen will be given off at a much lower temperature than when heated alone. One ounce of chlorate of potash heated with two drams of the black oxide of manganese will yield about 550 cubic inches of oxygen. Use dry chlorate of potash and manganese dioxide, powder them finely and mix thoroughly in a mortar. Now mix with the whole an equal quantity of fine sand, the addition of which ensures a regular evolution of oxygen. If sand is not used there is often a tumultuous rush of the gas. The mixture thus prepared is introduced into the retort and a piece of india-rubber tube fixed to its beak. The retort is then fixed on a piece of wire-gauze in one of the rings of the retort stand, and heat is applied by means of a spirit lamp or gas flame. If wire-gauze be not used the retort breaks from unequal heating. As soon as the air within the retort is expelled and oxygen begins to come out, the other end of the india-rubber tube attached to the retort should be fixed to a wash-bottle (one such may be extemporised with an ordinary bottle, a cork, and two bent glass tubes) containing water or lime water, and the latter is then connected by means of another piece of india-rubber tube with a gas holder. The water or lime water in the wash-bottle will dissolve any chlorine that may be evolved during the process. It is necessary to add here that chlorine is highly irritating and its presence in the oxygen will irritate the air-passages and cause troublesome cough. The gas-holder being filled with oxygen, its inhalation may be administered by means of a piece of india-

* Manganese Dioxide at the end is found unchanged and may be recovered, if necessary, by dissolving the residue in water. The resulting chloride of potash dissolves in water, while manganese dioxide which is insoluble falls down to the bottom of the vessel.

rubber tube fixed by one end to the gas-holder and having a funnel attached to the other end. In using the gas the funnel should be held as close to the nostrils and mouth as possible, and as oxygen is heavier than air, it should be held a little above.

To ensure a continuous supply it is necessary to have two or more gas-holders so that while one is being used for inhalation the others may be filled.

It is highly important that the gas used be chemically pure. Pure oxygen is colorless and odorless. When inhaled a sense of warmth may be felt but no pungency or irritation. Any departure from these conditions will indicate that the gas is impure. The next question is whether the gas should be administered pure or diluted with air. In my own cases I directed that the funnel be held very close to the nostrils allowing however some room for its admixture with air as well as for the removal of expired air. It was formerly believed that animals cannot live in an atmosphere of pure oxygen because it rapidly burnt up their tissues causing very rapid tissue waste, convulsions and death. Later experiments however prove that the convulsions and death were due to inhalations of poisonous exhalations of the lungs (carbonic acid and volatile nitrogenous poisons), and if means of removal of these from the oxygen chambers be provided, animals will live without any discomfort for many hours in pure oxygen under ordinary atmospheric pressure. Dr. Thompson says that "ordinarily it is sufficient to give it pure by one nostril while the other inhales atmospheric air; but it is best to give it for a few moments by the mouth or both nostrils without admixture of air."

The quantity of oxygen used should be regulated by the exigencies of each individual case. It is sufficient only to state here that it may be administered freely and abundantly in cases of emergency without fear of evil consequences. "The only effect experienced" says Dr. Thompson, "by those in health who have inhaled oxygen freely are vague and inconstant, and many of these effects may be due to the gas not being absolutely pure. Some describe a sensation of freedom about the chest, as if the respirations were easier, or they speak of a feeling of warmth beneath the sternum, or of coolness, slight vertigo, warm hands and feet. More blood flows to the surface of the body sometimes, and there may be slight formication. Some incline to drowsiness, others to increased muscular activity. There is often increased appetite and consequent gain in weight. The pulse may or may not be accelerated. The temperature is usually unaltered. Uric acid is said to be diminished (Kohlmann and Eckard). I have sometimes noticed an increase in the rate of breathing while inhaling pure oxygen, but this has always been due to a voluntary suction effort on the part of the patient, and it can be easily avoided by giving proper instructions."

THE TREATMENT OF CARBUNCLE.

By Assistant-Surgeon Gunga Singh, L.M.S.
Benares.

Having had many cases of carbuncle to treat, I beg to record my experience in the columns of the *Medical Reporter*. Carbuncle has generally three stages. First, *incipient* or *inflammatory*, second, *suppurative*, and third, the *sloughing* stage. Each stage requires different treatment, which is both local and general.

Local.—If the disease be seen in the incipient or commencing stage, I find the application of *Ung: Hydrarg Fort*: together with internal remedies, which are given below, generally sufficient to effect resolution, and it should persistently be applied on the inflamed tract for two or three days.

If the above medicines fail to check the extension of the inflammation, or the disease is seen in its second stage, I have recourse to the knife, and make a free incision up to the margin of the inflammation. The skin and the affected subcutaneous areolar tissues should be completely divided through up to the muscles, in as many flaps as may be thought desirable, and the sloughing subcutaneous tissue is either scraped away with a scraper, or dissected out with a blunt-pointed scissors, the skin above it being preserved intact. Pure carbolic acid or a strong lotion (1 in 20 parts of pure water), or strong oil (1 in 4 parts) should then be well applied over the exposed surface and in the angles of the skin flaps. Iodoform powder should be dusted over it afterwards, and the whole covered with carbolic oil and antiseptic absorbent cotton or poultice. Mercurial ointment should be applied on the red, inflamed skin beyond the angles of the flaps to stop the extension of the disease and effect its resolution. The above should be continued until the sore becomes clean and healthy. It should be well irrigated and cleaned at every dressing.

If the disease be seen in its sloughing stage, *viz.*, when the skin on the internal subcutaneous slough has also sloughed, and the disease has affected an extensive area, a free incision should be made up to the margin of the sloughing tissues, and the treatment of the second stage followed.

Internal treatment—Every patient suffering from carbuncle should have his urine examined at the commencement of the treatment. If it contains sugar the patient should be treated with liq. morphia hydrochlor, opium or codeina and whiskey: about two drachms of the latter to be given with water before meals twice a day. If there be much thirst it should be quenched with small doses of soda bicarbonate—say five or ten grains twice a day—and plenty of milk should be drunk. Of course, starchy food should be given as sparingly as possible. If the urine does not contain any sugar and the patient be weak, give ammon: carb, spts vin: gallici and decoct: cinchonæ at first, until the pulse improves and the sore becomes healthy; and quinine disulph, acid nitro-hydroch: dil, with inf: chiretta afterwards to complete the cure.

The difference in my experience and that which I have read in any surgical work is, that I do not use the knife in the first stage of the disease as a treatment to begin with. When the disease has affected a large tract, and the general health is weak, I use the knife sparingly, but I always depend on constitutional and local medicines. If I find the patient is weak and the inflammation extending, I destroy the skin over the carbuncle with potassa fusa, at

different places to enable the sloughing subcutaneous tissue to be removed through them, and iodoform, &c., to be applied on this.

NASA JWAR OR NASA FEVER—A TYPE OF INDIAN FEVER.

By Naresh Chandra Mittra, M.A. M.B.,
Ranchi.

This type of fever is, I think, quite peculiar to India. I have seen no mention of it in any English text-book, and so have ventured to give a description of it.

Symptoms and *general character.*—The fever is of a low, remittent type, sometimes it is intermittent. The temperature rarely goes beyond 102°F. The patient complains of severe muscular pain over the region of the trapezius muscle; sometimes the pain extends downwards over the spinal column and over both the shoulders. There is also headache, mostly frontal. On examining the nose, a localized swelling of the mucous membrane of the septum or of the lateral walls is distinctly visible. The swelling is of the size of a big pea, and fluctuates on pressure. It is undoubtedly of an inflammatory character, but the strangest thing is that the patient is quite unaware of, and never complains of pain or uneasiness at the seat of the disease. The fever owes its origin to the inflammatory swelling of the nasal mucous membrane. But why it is that no sensation is felt by the patient at the site of the disease is not quite clear. The swelling if left to itself might disappear, but it takes a long time before it goes away. Indeed, the accessory symptoms become so troublesome, and lingering that before long the medical man or the patient himself has his attention directed to the nasal mucous membrane, to find out whether it is *Násá* or not, and once this has been found out the patient's sufferings are at an end. Sometimes both the nasal cavities are affected. It has not yet been worked out—as to the time of the appearance of this swelling. It never suppurates.

This fever is very prevalent in Bengal, but whether the other provinces are affected as well, can be known if the medical men thereof favoured us with their opinions in the pages of the *Medical Reporter*. Could not it be classified with the *eruptive* fevers, as this distinct, localized eruption never fails to appear during the course of the disease? Of course this theory is quite premature, and requires thorough working out before an united opinion can be hazarded.

Diagnosis.—It is here that mistakes are often committed. It resists any internal treatment; though the fever may assume an intermittent type, no antiperiodic is of any avail to stop it. The severe pains over the back and shoulders, and the lingering character of the illness prompts one to examine the nose, which, when done, leaves no doubt as to the nature of the disease.

Treatment—Simply local. Puncturing the mucous membrane at the site of the swelling is followed by free hæmorrhage. The patient experiences great relief. The pain rapidly diminishes, the fever goes off, and in a day or two he is free from the complaint. But most people object to this mode of treatment, as they would have to subject themselves to such an operation whenever they get an attack of *Násá*, so that with many, this treatment is not in favor; on the contrary, they prefer the part to be touched with *lunar caustic* or what is more commonly used, the milky juice of *ákanda*. These have the effect of diminishing the inflammatory swelling and helping its absorption.

OPHIOLOGY.
OR
A DESCRIPTION OF THE SNAKES OF INDIA.—CLASSIFICATION OF SNAKES ACCORDING TO THE STRENGTH OF THEIR VENOM.

By R. P. Banerjee, B,A., G B.M.S.L.,
Pachbadra, Rajputana.

(Continued from page 261, Vol II.)

A. Deadly. Venomous. These are:—

I. Naja Tripudians. (The cobra): Merrem. In all its varieties.—

(*a*). Kewtia—or that without spectacle marks.

(*b*). Gokurra—that with spectacle marks on the hood.

ii. Ophiophagus Elaps. Gthr. Rajsanp or Kalia.

iii. Bungarus cœruleus. Schdr.—called variously. *Karait, Kawriálá, Sankh Chúr.*—

iv. Bungarus fasciatus Schdr.—*Sankhini, nagin.*

v. Xenurelaps bungaroides, Cantor.

vi. Callophis Intestinalis, Laur.

vii. ,, Pentalineatus, Beddome.

viii. ,, Macclellandii, Reinh.

ix. ,, Annularis, Gthr.

x. ,, Trimaculatus. Daud.

xi. Callophis nigrescens. Gthr.—

xii. Trimesurus gramineus., Shaw.—(deadly in Rajputana). T. Gramineus is called *sátták*

xii. Daboia Russelli, Gray, called—*karundia, pharsá, Piria*—variously.—

xii. Echis carinata—(deadly in Rajputana) called *phuska, khapar,* or *parar; (Sans) manibhaddrá.*—

B. Venomous, not deadly—are:—all the *Trimesuri-Halys, Hypnale,* and Peltopelor (called *tirmár*)—

C. Doubtful.—Of these anomalous effects are noticed, some are non-poisonous, but occasionally some of their bites lead to serious results. These are the varieties of:—

Dipsadidœ.—Dryophidœ.—

Dendrophidœ, Colubridœ.—

Cases of viper bites in human beings, successfully treated with stychnine, reproduced here from my contributions to the *Australasian Medical Gazette,* and the *Lancet* dated July 15th, 1892, and May 28th, 1893 respectively, with modifications and details which are necessary to enhance the propriety of the text.

Case I.—Bhagwan Singh, *æt* 30 years, Hindoo sepoy of the Erinpura Irregular Force; admitted at 4 P.M., 10th June 1891, in the North India Salt Revenue Hospital, Pachbadra, for treatment of viper bite (*echis carinatá*), with the following symptoms:—

He was bitten on the way back to his house while passing through a grassy bypath, by an *echis carinata* (snake killed and subsequently identified), on the dorsum of the left foot. The punctures were deep, one inch apart, the two edges ecchymosed, and the wound now (after being brought into the hospital) bled. The blood was thin, watery, and non-coagulable—Patient (5 P.M.) began to get sleepy, could talk with difficulty, and the bleeding was now general from all the mucous surfaces. Stupor now deepening.

Treatment.—At this occurence I was absent on short leave, and my Assistant had to treat the case. As instructed by me, he did not inject strychnine first, as he was afraid of the drug, and preferred potassii permanganas instead. A 2 per cent solution, 20 minims at a time, every ten minutes was subcutaneously injected, stimulants given and patient kept roused up. Notwithstanding all these (now 9 P.M.) coma was deep and breathing difficult. Mr. Ashton, the Assistant Commissioner Salt Revenue, who interestedly watched the case asked my Assistant to try strychnine, and this was done every hour. The bleeding stopped gradually; the senses returned and coma disappeared by the next morning. Strychnine was continued until slight twitching of the muscles of the face was produced. This man took 1½ grains of the acetate of strychnine (noted by an over-sight as *sulphate* in my contribution to the *Lancet*), and was discharged cured on the 14th June 1891.

Observations.—Strychnine was found efficacious, controlling the bleeding which was profuse in this case, and it was remarkable that no twitching was produced until the administration reached as high as one and a half grain—*nearly 3 fatal doses.*

Remarks.—Of course both the remedies, the permanganate and the strychnine were tried. It becomes therefore very difficult to single out one of them, but it was noted that strychnine was used as a *dernier resort* when the symptoms took a very bad turn, and so the very large quantity answers for the strychnine only, because the permanganate could have no effect to enhance or reduce the action of strychnine so decidedly. The strychnine produced its action in counteracting the snake-poison now diffusing into the system—as 1½ grain would have been fatal in a robust and healthy man, if given subcutaneously. Also it is presumed, that all its effects were employed to destroy or counteract the poison. Strychnine is a nerve-poison and affects the motor cells and centres, and stimulates the vaso-motor system of nerves. Hence it was that the lividity of the face and capillary bleeding was controlled by it, and as the snake-poison was entirely counteracted and destroyed, it is again supposed, therefore, that viper poison has the contrary effect of paralysing the motor centres and vaso-motor nerves tending to the production of coma, stupor, and dilatation of the pupils, with dilatation of the capillary walls, allowing diapedesis to occur.

Case II.—Sadiq Husain, Musalman boy, *æt* 12 years; bitten by a snake *khapar* (*echis carinata* as killed and subsequently identified), on the right ankle joint, just below the inner malleolus, on the 5th August 1891. A tight ligature was applied over the right ankle joint, and the boy was brought in at 8 A.M., to the hospital, one hour after the bite.

The punctures (2) were distinct, there was bleeding, the edges much ecchymosed, and bleeding from the mucous surfaces was slight, the boy was falling asleep, and was only kept up with much difficulty.

Treatment.—Strychnine injections were used. The punctures were enlarged and a small quantity of blood was cupped out. The boy recovered and was discharged cured on the 17th August 1891.

Observations.—The beneficial action of strychnine was more apparent in this case, a slight twitching was noticed in the face when the further administration was stopped.

Remarks.—As the boy was sickly and weak, strychnine was given more cautiously; even then the dose reached to ¼ of a grain of the acetate. The Assistant Commissioner who was present on the occasion was very much satisfied with the effects of strychnine. This case was treated by me.

Case III.—Nathey Khan—a Musalman, *æt* 35 years, Customs peon; bitten by a snake *(echis carinata)* on the 9th August 1891, and was brought in, the same day at 8 P.M., three-quarters of an hour after being bitten, with a tight ligature over the leg just above the ankle joint.

This man was healthy, fairly robust, and was bitten on the left ankle just over the outer malleolus. The punctures were distinct, they were bleeding, and the edges ecchymosed. The man was in a state of semi-stupor when admitted. Bleeding from the mucous surfaces soon commenced profusely.

Treatment.—The wound was enlarged, cupped and a quantity of blood taken out, and a solution of strychnine injected. The bleeding stopped and the stupor, dilatation of the pupils and difficulty of breathing gradually disappeared. The patient recovered, and was discharged cured on the 12th August 1891, after 3 days.

Observations.—Strychnine was solely used, and its action manifested only after the dosing reached to aggregating 1¼ grains in 6 hours.—No deleterious effects were noticed.

Remarks.—The man was robust, but soon lost heart, and was apathetic after the bite. He was cheered up with difficulty by the Assistant Commissioner who was present on the occasion. In spite of all attempts the man sank into a deep stupor. The patient rallied, however, under the effects of strychnine.

Case IV.—Maia, sweeper, *æt* 38 years; bitten by *echis carinata*, admitted on 14th September 1891, at 8 A.M. with all the symptoms of case No. 3, and mended under strychnine treatment. As the symptoms were more severe sometimes, I had to give larger doses, in all aggregating to 3 grains in three days without any ill effects. He was discharged cured on the 18th September 1891.

Observations.—Numerous black clots of blood were passed in the urine, no strychnine symptoms were markedly detected in this case, and curiously so, because so much strychnine was used.

Remarks.—The snake was a peculiar one, the wavy lines in the sides had no characteristic dots in their concavity turns,

and the curves were thinner and fainter than other varieties of *eehis*. Fangs were each ½" long, grooved on the convexity, that looked forwards.

Case V.—Raghunandan, Hindoo male, *æt* 55 years, Customs Jemadar; was bitten on 29th March 1892, on the right foot about the cuboid bone, at 8 A.M., and was taken an hour after into Hospital with all the symptoms of case No. 3. Bleeding in this case was severe and profuse, patient was very weak.

Treatment.—The usual liquor strychnine was injected and the injections were repeated until all the symptoms ceased, but suddenly after 72 hours a relapse of the symptoms occurred and the same treatment was resumed. The patient recovered and was discharged cured after the 6th day, on the 4th April 1892. In this case the Assistant Commissioner Mr. Ashton suggested the use of *Pagostemon Parvifolius* to be used after Dr. Dymock's authority, but as the specimen was dry and quite worm eaten, and although a mouthful was given him to chew, and the symptoms not being relieved or affected it was soon discarded in favor of strychnine, which soon reduced the symptoms.

Observations.—In this case no twitching or contraction of the muscles was noticed until after 3 days of the bite, A relapse occurred on the 3rd day at 8 A.M., and all the symptoms re-occurred. This patient took 4 grains of strychnine in 6 days.

Remarks.—This was a most remarkable case. The man under treatment, took the largest quantity of the remedy and manifested no other symptoms or inconvenience than a simple twitching of the facial muscles.

The following are cases which have occured since.

Case VI.—Rahimuddeen, *æt* 43 years, Musalmaff male, peon, North India Salt Revenue Customs, Pachbadra, was admitted at 10. 45 P.M., one hour after the bite, on the 13th September 1892.

The bite was on the right foot over the middle of and above the instep. Thare were two distinct punctures, but one of these was ½" deep and 4"5 ecchymosed around. The limb was swollen and tender. Patient in a state of collapse; all the symptoms more acute and severe; pulse 95; temperature 90·0; skin cold, face very melancholic; pupils widely dilated; breathing irregular; low incoherency present.

Treatment.—Strychnine treatment resorted to and the case recovered—(An account of the case appeared in the *Medical Record*, November 1st 1892. p. 432).

Observations.—This case took in all 4 grains of strychnine in 72 hours, and was discharged cured on the 16th September, 1892.

Remarks.—The snake in this case was a *Daboia Russelli*, the so called 'chain-viper' which is as venomous as the cobra, the allied symptoms were more marked, and the breathing was more affected.

Case VII.—Mangna, Hindoo, Dâk runner, *æt* 20 years, was bitten by *pewna* snake (*Daboia R.*?) on the 3rd July 1893, at 8 P.M., and was admitted one hour after the bite.

The bite was inflicted on the left foot. All the 4 punctures were very deep (⅛" to ¾") and the surrounding skin was black and ecchymosed. The punctures were situated thus °A °B

°A °B

The patient was insensible and could only be roused with difficulty; pulse feeble, breathing sterterous; temperature 90°0 pulse 48.

Treatment.—Strychnine injections were used as often as necessary, guided by the symptoms present. The patient made a good recovery after 7 days, and was discharged cured on the 10th July 1893.

Observations.—In this case stupor and difficulty of breathing were great; bleeding though present was very slight, and the blood was dark red and thick. The foot was swollen and tender. He complained of intense thirst. Pupils very widely dilated, reflex action badly affected. All the symptoms disappeared gradually, and the patient recovered perfectly under strychnine administration.

Remarks.—This case took one and a half grains of the acetate of strychnine in 6 days, without any further contingencies.

(*To be continued.*)

A Mirror of Practice.

A CASE OF CONTINUED FEVER.

By R. N. Ghosal, L.M.S.,
Lecturer in Surgery,
Barisal Medical School.

The patient, a young man, who had been suffering from pyrexia with severe constipation, pains in the limbs, joints and back, intense frontal headache and high temperature, was placed under my treatment. He had been suffering for a few days. His father, whom I treated before for this sort of continued fever, told me that the patient was suffering from a peculiarly congested swelling of the nasal mucous membrane from which he (the father) frequently suffered. This swelling, which I have referred to is just like the appearance of a small mucous polypus ordinarily termed "*Nasha*", the pyrexia being due to this congestion of the mucous membrane of the nose. In the father's case I treated by puncturing the congested swelling inside the nose by the side of the septum, just at the apex of the conical nasal opening. A few drops of blood were let out, by carefully and forcibly nanipulating by friction and pressure over the spine and temples from below upwards several times.

In the father's case, the fever subsided in two days, and the pains too. The head was washed with cold water and ice.

In the son's case, a similar puncturing was done on two cocasions because the first was unsuccessful, owing to the sudden movement of the patient. The temperature fell, and the pains and headache subsided instantly. As there was constipation, castor oil was prescribed, which moved

the bowels very nicely Here it will be remarked, that fever mixture was prescribed some two or three days with no benefit. He is now perfectly well.

As the English text-books do not treat of this peculiar fever, I request that your readers will kindly enlighten me, through the medium of your journal, as to the exact and correct pathology of this disease.

CLINICAL NOTES:
NORTH INDIA SALT REVENUE HOSPITAL.

By R. P. Banerjee, B.A., G.B.M.S.L.
Pachbadra, Rajputana.

(Continued from page 230, Vol. II.)

Case II—Jetha, æt 12 years, Hindoo male, resident of village Chatan, 12 miles in the district; admitted for stone in the bladder on the 10th April, 93.—Stone of 4 years standing. Patient not weak or much exhausted. *Prolapsas ani* often occurred, and gave a deal of trouble.

Treatment.—Suprapubic lithotomy was performed and the patient recovered. Stone weighed 6 ounces and measured 3" by 3·2". It was made over to the guardian of the boy.

Case III—Mehra, æt 40 years, Hindoo male, gardener (*Malee*) by profession, resident of Samdari; admitted for stone in the bladder on the 1st May 1893. Patient strong and in fair health. Stone of 3 years standing.—

Treatment—Suprapubic operation done and the stone removed. The patient made a good recovery—stone weighed 4·5 ounces and 10 grains, and measured 3" by 2·5". Moniliform in shape and very hard. It was made over to the patient at his request.—

Observations.—All these cases were of long standing, and suffered from debility, loss of memory; a low imbecility was noticed; senses dulled; the urine dribbled and was loaded with phosphates. The stones in all the above cases were lithic acid ones, and externally were thickly envolved in phosphatic deposits.—The stones in cases 1 and 2 were pyriform, and in case 3, distinctly moniliform with 3 depressions.

Remarks.—It has been ascertained that men down here are afraid of the surgeon's knife, and rarely come to be treated at the hospital in the neighbourhood, and not until they are compelled by the diseases taking a worse course. The above are a few cases for illustration. All these cases were more or less so much exhausted, that a very little quantity of chloroform was used, and even when the effect of the chloroform was wearing off, the rest of the operation was finished while the patients were in a drowsy state.

(To be Continued.)

CASES FROM THE DELHI CIVIL HOSPITAL.

By Assistant-Surgeon Mul Chand,
In Charge, Civil Hospital.

(Continued from page 265, Vol. II.)

Case VIII.—Mahomad Isak, aged 5, attended as an out-patient for Psoas Abscess.

Symptoms.—Right loin, buttock, and groins swollen and inflamed, fluctuation felt in latter part, great tenderness in spine at the lumbar vertebræ, and the patient was very uneasy and had high fever.

Treatment.—Abscess aspirated over region of insertion of Psoas muscle, on inner side of thigh below Poupart's ligament. A large quantity of pus was evacuated and the cavity washed out with boracic acid solution. The operation was repeated again after a week, and the patient then made a good recovery under tonics and antiscrofulous remedies; the abscess cavity having apparently closed up entirely.

Case IX.—Musumat Piroo, Mahomadan female, aged 40; admitted for a tumour in the mouth on 29th June 1892.

Symptoms.—A tumour the size of an orange projecting into the mouth; hard cartilaginous in structure, attached to the outer side of the alveolar process of the jaw on right side by two distinct pedicles; duration 2 years.

Treatment.—Tumour removed by ecraseur under chloroform, wound healed up rapidly and patient took her discharge cured on 2nd July 1892, after 4 days stay in Hospital.

Case X.—Dogur, Hindoo male, age 18 years; admitted into Hospital on 26th July 1892, for an old dislocation of knee joint, put up by a *jat* 6 months previously.

Symptoms.—Inner condyle of right femur projecting inward with only the skin covering it, no muscle or any other tissue intervening, very painful on pressure, leg everted, and the patient unable to stand or walk.

Treatment.—Patient put under chloroform and the projecting condyle excised, part adjusted and put up in Mcintyre's splint. He was discharged able to walk on 9th September 1892, five weeks after the operation.

(To be continued.)

A CASE OF NECROSIS OF THE TEMPORAL BONE.

By J. C. Day, M.B.,
Assam.

A. K., aged 25, came for treatment on account of chronic purulent inflammation of the left ear. It appeared on examination that he was completely deaf with the right ear, and, in explanation of this, presented a piece of bone which was removed from the right mastoid process six years ago, after an attack of influenza. The sequestrum consisted of almost the whole of the mastoid portion of the temporal bone, and on its inner surface showed a part of the groove for the lateral sinus. When the patient came under my care there was no gap to be detected over the right mastoid process, only a narrow groove covered by adherent epidermis, the groove feeling as firm to the finger as healthy bone. The position of the right auricle was normal, likewise the position of the head, showing that the sterno-mastoid had secured an attachment to the new bone, although during the illness his head was said to have been turned towards the right side. Neither was there facial paralysis or any abnormality in the circulation that could be detected. There was no trace of the ossicles, which, according to the patient's account, came away after the influenza, and at the bottom of the right meatus I found a dry cicatrix.

Our Portrait Gallery.

INDIAN MEDICAL CELEBRITIES.

By Surgeon-Captain B. D. Basu, I. M. S.

III.—T. E. Burton-Brown M.D., Lond., C. I. E.

There are very few members of the medical profession in this country who are not acquainted with the name of the subject of this sketch. For a period extending over a quarter of a century he was connected with the making of the Lahore Medical School, and with spreading medical education in the Punjab.

Thomas Edwin Burton-Brown was born on 8th February 1833. Joining the celebrated Guy's Hospital in 1851, he became a Member of the Royal College of Surgeons of England in 1854, and took the M. D., degree of the University of London in 1856. His record in all the medical examinations of that University was unusually brilliant, and he was awarded as many as six gold medals. He acted afterwards for two years as Demonstrator of Anatomy in Guy's Hospital.

On the 23rd July 1858, he was appointed Assistant-Surgeon in the Indian Medical Service; and came out to India the same year. He stayed in Calcutta for the first three years of his service, and with Dr. Norman Chevers investigated many medico-legal questions of this country. In his work on Medical Jurisprudence, Dr. Norman Chevers has over and over again referred to the valuable help he received from the subject of the present sketch in deciding many points in toxicology.

On the establishment of the Medical School at Lahore in 1862, he was appointed Professor of Botany, Chemistry and Materia Medica in that institution, as well as Chemical Examiner to the Government of the Punjab. As a botanist and chemist, Dr. Brown's name is well known in the literature of indigenous drugs and poisons of the Punjab. In 1862, on the occasion of the second International Exhibition in London, he forwarded specimens of Punjab drugs. In 1864, when the Punjab Exhibition was held, he was selected to prepare the Report on Punjab drugs. His report is by far the best and most trustworthy we possess as yet of the indigenous drugs of that province. He was the first Secretary of the Punjab Agri-horticultural Society, and contributed several important papers to its Transactions. He succeeded in identifying many Bázar drugs which were not known before.

His brochure on the Punjab Poisons has been often cited as an authority by such eminent toxicologists as Taylor, Tidy and others. He was the first in this country to differentiate between *Datura* and *Capsicum* seeds by the aid of the microscope, and thus succeeded in no small degree to help justice in cases of *Datura* poisoning.

On the occasion of the publication of the Pharmacopœia of India, he was on the Committee to report on indigenous drugs. His remarks on the Indian Pharmacopœia embodied in two papers published in the *Indian Medical Gazette* for 1877, are very interesting and suggestive, and may be even now perused with advantage. At the time of their appearance, the editors of the *Gazette* pronounced the papers to be very valuable "as they were expected to be, coming from the pen of Dr. Brown." In these papers some of the defects of the Indian Pharmacopœia are pointed out.

His suggestion how to prevent the decomposition which certain mercurial compounds undergo in the tropics, is also a valuable contribution to pharmaceutical chemistry.

He was for many years Fellow of the Chemical Society of England, and there are several papers in the Journals of that Society from his pen.

He is an acknowledged authority on the Punjab Flora. The late Dr. Stewart in his valuable book on "Punjab Plants" has several times mentioned the help rendered to him by Dr. Brown.

The above may be considered as some of his valuable contributions to the medical literature of this country, but his sphere of activity was chiefly that of a teacher. He possessed the rare ability of imparting knowledge, which very few have. As a teacher, of whatever subject he taught, he had hardly any rival in this country.

In 1872, he was appointed Principal of the Lahore Medical School. He was one of the original Fellows of the Punjab University, and as Secretary to its Medical Faculty did his best to improve the status of its medical degrees.

He came out to India in 1858 as an Assistant-Surgeon, became Surgeon, 23rd July 1870; Surgeon-Major, 1st July 1873; and Brigade-Surgeon, 1st September 1881. He retired from the Service in November 1889, after serving 31 years in the country.

His energies were chiefly absorbed in lecturing at, and organising the Lahore Medical School. The position which the Lahore Medical College occupies at present has been principally owing to his exertions. The efficiency of the medical school in the Frontier Province of the Indian Empire has been mainly brought about by the ability, energy and guiding hand of the subject of this sketch. He may be most aptly designated as the pioneer of medical education in the Land of the Five Rivers. Almost all the Assistant-Surgeons of the Punjab Medical Establishment, and most of them in the North-Western Provinces received their education at his hands. On his retirement, his pupils showed their respect and affection for him, not only by convening meetings and passing resolutions expressing their regret at his departure, but more substantially by placing an oil painting of his in the institution which owes its present condition principally to his care and labor.

In 1891, in consideration of his valuable services in India, Her Majesty was pleased to nominate him a Companion of the most Eminent Order of the Indian Empire.

J. B. Brown

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The Medical Reporter.

CALCUTTA: NOVEMBER 1st, 1893.

POISONING has been a favorite method in India of getting rid of foes; it has even often been resorted to by impecunious debtors to get rid of importunate creditors; the frail wife finds it a handy way to cover her infidelity and to rid her of a husband she no longer loves. Cattle are poisoned annually in large numbers, either to satisfy some grudge or for the sake of their hides. A large class of criminals also resort to the use of deadly drugs as the most feasible way to effect their evil purpose of robbery—over-doses are often given to their victims, and the result is death. So despite the *Pax Britannica* so justly lauded by Germans, Frenchmen, Italians, and European celebrities of other nationalities, who have visited India, and so appreciated by all classes of the people of India, a great deal of the most terrible lawlessness is still prevalent in the country—murder, secret, unsuspected! It is so very easy to procure this means of committing crime. Poisons are sold so carelessly, we might write recklessly, and still be within the truth. There are no legal safeguards in India regarding the sale of the most deadly drugs, and in India, as a matter of fact, we need more stringent legal enactments regarding the sale of *poisons* than those of Great Britain, because in England people look upon poisoning and the poisoner with horror; the people have been morally educated above it. Not so in India, where there are thousands of the ignorant inhabitants who feel no conpunction in taking human life, and to whom poisons afford a facile means of obtaining their end, and the dead whether burnt when Hindus, or buried when Mussalmans, are so easily disposed of, especially in outlying villages—far away from the Sudder Station and controlling Magistrates resident there. It is time that a special Poisons Act, restricting the sale of poisons in the most stringent manner, should be made applicable to all India. It is as difficult to estimate the loss of life yearly through the administration of deadly drugs, as it is impossible to obtain statistics under the circumstances. We should have even a special Commissioner of Poisons, as we had a Thuggee Commissioner.

Lord William Bentinck's administration of India is memorable for the humane laws passed through the Council. By an act he abolished *Suttee*; by another act Thuggee was abolished. Captain, afterwards Sir William Sleeman, gave Lord William essential help in putting down Thuggee. Captain Sleeman hunted down this remarkable association of fanatical and hereditary assasins. He organised the Thuggee Department, and by a remarkable display of energy and intelligence, succeeded in tracing, following up and capturing gangs of these professional and hereditary murderers. So successful was he that Thuggee received its death-blow, and the profession is now virtually extinct. We believe the last trial and conviction for the crime took place in 1852, somewhere in the North-Western Provinces.

Thuggee was a most remarkable organisation, a brotherhood of criminals of the darkest character, robbers aud murderers—a brotherhood in which Mussulman and Hindu fraternized. The origin of Thuggee seems not to have been clearly ascertained; some say that it arose in the early Mahomedan period, while others put its origin earlier. However this may be, it continued up to our own day, though in later years it was spasmodic. It is certain that when Thuggee was rampant it prevailed throughout India.

Before Lord William Bentinck the attention of Akbar, the great Mogul Emperor of India, was drawn to the prevalence of Thuggee, and he endeavoured to suppress it. But although large numbers of Thugs were executed during his reign, Thuggee was not materially affected, for soon after his death it was as rampant as ever. The ancient temple of Ellora displays in its bas-reliefs the murderous doings of Thugs, a sufficient proof that Thuggee existed in ancient times.

The rise of the British power in India was so gradual that for a long time the whole attention of British Officers was devoted to matters military, and Thuggee did not attract their notice till about 1799, that is, after the fall of Seringapatam. Thuggee then flourished in Tippoo's dominions, and the British officers located there came in contact with the murderous evil. Yet no exterminating process was followed as regarded Thugs till Lord William Bentinck's time, and under Captain Sleeman, who being assisted by able Lieutenants hunted the Thugs from district to district, tracked them, caught them, and hanged them. Some Thugs were spared to serve as approvers, and these materially helped the authorities to catch and convict others. These were kept in model prisons, of which one is still existing at Jubbulpore.

The strangest thing about the organisation of Thuggism was that the gangs were composed of Hindus of all castes and Mohomedans as well, and that both Hindus and Mahomedans, despite the wide divergence of their creeds, alike worshipped *Kali*—the Goddess of blood. It was to *Kali* as the Goddess delighting in the destruction of human life that a solemn sacrifice was made after each murder.

Though the word Thug is well known and Thuggee is often spoken of, yet there are many people in India even who do not know what Thuggee really means. The Thug's mode of destroying life was by strangulation. The victim

was always inveigled into their company; often a good looking vivacious young woman, herself a Thug of course, was the decoy; sometimes a man (Thug) dressed as a respectable *sowcar* or *soudagar* prevailed upon a party of other *soudagars* to journey from some town with himself and his company, pretending that their destination was similar. They had a hundred various devices to inveigle their victims into their power. Once an individual or a party joined a company of Thugs there was no escape for either from the death that had been planned for them. The Thugs watched for opportunities to commit their crimes, and left no traces of their deeds. Thus they sometimes travelled on and on with their victims for days and even weeks before an opportunity presented, and then at a given signal the *roomal* was thrown rapidly and dexterously round the neck by one of the band specially trained for the work, and who by a quick turn of his strong wrist laid the body of the murdered man at his feet; if several victims had to be dealt with, they were all strangled simultaneously. The Thugs were robbers, but they never robbed uncoupled with murder. Out of the property they acquired by murder and robbery they always set apart a portion for religious purposes and votive offerings, after the manner of the bandits of Italy and Spain, who even now, in Christian Europe, present a portion of the spoil acquired by robbery and bloody deeds at the shrines of saints and the altars of churches, acts which displays a remarkable psychological fact as regards conscience, in dwellers in different lands and living under differing circumstances. This subject of the ductility of conscience opens up a wide field for inquiry and speculation to the moral philosopher. It should also be of interest to the psycho-physical student; matter (the body) and mind being so intimately linked that the subtle phases displayed in acts owing their origin to mental stimuli, as the acts of all reasonable beings do, need the closest study of the medical student.

The Thugs though such ruthless murderers, abstained as a rule, for some religious crotchet, from murdering women, the persons employed as carriers of Ganges water, low caste people, musicians, dancers, *fakirs* and Sikhs, unless some one of these witnessed the commission of a crime, and thus became a source of danger.

We have written at some length about the Thugs and make no apology for doing so in an article on Poisoning, because Thuggee meant murder, secret murder, and poisoning means the same, and further, because, the Government of India, under Lord William Bentinck, as soon as it became aware of the frightful extent to which the great annual loss of life by secret murder was carried on by Thugs, showed commendable zeal, in its efforts to exterminate the ruthless murderers who existed throughout the land. Government organised a special Department for the purpose and enlisted in its service such able officers as Sleeman, Harvey, Meadows-Taylor and Gould-Weston. Owing, therefore, to the affinity between Thuggee and poisoning, we do not advocate too much when we urge that as was done in the other case, besides stringent regulations for the sale of poisons, it is necessary that a special department should be organised to hunt down and bring to justice the professional and incidental poisoners of India. This department should also have cognisance of the crimes which are committed after the administration of stupefying drugs. Our information leads us to believe that drugs are freely used in India on honest women for immoral purposes. There are certain *fakirs* and *hakeems*, *hakeems* even in Calcutta, where the Police is administered by an able Commissioner, who under the pretence of selling 'love philters' and 'potions' really give their clients harmful drugs for secret administration. In England, people are prosecuted for fortune-telling; in India, in the capital city, *fakirs* and *hakeems* are allowed to sell openly 'love philters' and 'potions' but really harmful drugs. The fortune-tellers of England can only injure and effect the pockets of people, but the *fakirs* and *hakeems* in India often destroy the honor of women. Should not the Government of India stand on the same moral plane as the English Government? We appeal to the Government of India for this purpose. A Poisons and Drug Commission is far more necessary than an Opium Commission. The Opium Commission, is the offspring of the misguided energy of *faddists*, and is really not wanted. The Zemindars of Bengal say so, and all reasonable people in India agree with them, yet the Opium Commission does and will exist till it concludes its work. The Poisons Commission is an urgent want, and by tabulating after sifting evidence, would accumulate such a mass of facts, as would be of incalculable value to the Government for use as regards legislation on so vital a subject. We appeal to the press of India to give the matter of a Poisons Commission their attention and earnest support.

Crime is still active in India though veiled; murder is still active, and it is now committed, unrestrained by the fear of penalties. Numbers of the people still fall victims to poisoning; still larger numbers of the people are robbed after being drugged; numbers of women lose their honor after being drugged; numbers of women hang themselves after loss of honor, or otherwise seek death to cover their shame. Does not this need looking into? Do not we need a Poisons Commission?

The *Daturiahs* are a class of criminals who pursue their infamous trade of robbery, often resulting in murder, in villages and towns, on railways, and we often hear of them pursuing their trade even in Calcutta. They have acquired their name by using the *datura* plant as their agent for plying their profession. These criminals generally attach themselves to travellers and become very social, and then by means of sweetmeats, or other eatables, administer the drug. They are careless regarding the dose, and sometimes their victims never awake from their stupor. Such an high authority as Dr. Chevers has stated that since the suppression of Thuggee, the crime of poisoning has increased greatly, and is prevalent in all three presidencies of India.

There is good and sufficient reasons for our emphatic statement that poisoning in India is not by any means confined to

professionals. It is the common form of crime of the country. The mental constitution of a timid race, of an ignorant race, such as the masses of India, is peculiar. Such people when angered, when frantic with rage and filled with a desire for revenge, yet manifest the cunning of the mentally weak; some hidden and therefore safe means of revenging themselves, and *poison*, so easily obtainable throughout India is a ready means. Their purpose is effected, and there is only one soul less among the 250 millions of India, and so poisoning goes on all over the land, serving as a means of gratifying private animosity.

India furnishes a profusion of lethal agents in the large variety of deadly plants which grow all over the country, and the deadly nature of most of these plants is well known to the people. Added to this, the facility of obtaining the means of destroying life, is the unrestricted freedom, with which the most potent of poisons, mineral or vegetable, may be purchased, in every native bazar. It is so easy to procure the means for secret poisoning that, it is no wonder the crime is so prevalent. No one who has lived long in India is unware of the truth of what we state. Medical Officers, Police authorities and all Officers attached to the criminal administration of the country, must know that the crime of secret poisoning is very prevalent, and these could, if their opinions were sought, supply valuable information to support our contention that we do need a Poisons Commission.

The *datura* is a common plant of India and all natives know it as an intoxicant and deadly drug. For poisoning *datura* is used in various ways; the most common is to reduce the seed to flour to mix with food. *Datura*, is, however, far from being the most frequent cause of deaths from poisoning (though so well known). Other drugs are used, the chief being opium and arsenic; *datura* being next in the list. We gather from statistics compiled in 1884 that over 90 per cent of the deaths caused by the use of poisons were due to opium or arsenic, yet how easily, as we have shown in a previous article, can these lethal agents be procured. In Calcutta they can be purchased even by children. Who then will deny we need a Poisons Commission to look into this state of affairs?

Arsenious Oxide is largely used as a cattle poison, and we know, from statistics, how much in money-value the riots suffer annually, for the number of cattle thus destroyed is large. This matter of cattle poisoning is such a dastardly thing that, it requires the adoption of the most stringent measures for its suppression. Here too the need for a Poisons Commission presents itself.

Other vegetable poisons are also used, though they are not so familiar as the three above mentioned; these are aconite, oleander, nux-vomica, and various Euphorbias; and the seeds of *corbera thetiva* are sometimes used instead of arsenious oxide, as a cattle poison. Then for the purpose of abortion, as local irritants, the natives use the Euphorbias and *plumbago rosea*, oftentimes with fatal consequences to the persons to whom it is administered. The various compounds of copper are also used as poisons, and these are easily obtainable in the bazars.

As we have stated, no reliable statistics are at present available as to the annual mortality in India from poisoning, either intentional or homicidal; drugging for robbery proving fatal and non-fatal; suicidal; suicidal to cover a woman's shame; or accidental; yet we think from what is known of the number of deaths annually resulting from the use of poisons, a fair case is made out for immediate active repressive measures and for the appointment of a Poisons Commission.

As a side issue, a very important matter though, a Poisons Commission could also investigate the subject of the annual deaths from snake-bite, which are put at the lowest at 20,000 for all India. The mortality from poisoning taken altogether is very large, almost as large as if India was yearly engaged in a disastrous military enterprise.

THE Report of the Sanitary Commissioner of Bombay for the year 1892, which has just been published, is a very interesting compilation. Rules have been recently issued by the Government of Bombay to define the relations of the department with the Sanitary Commissioner, and His Excellency in Council insists that these instructions be strictly observed in future.

We note that the population of Bombay has increased on the censused population of 1891, which then stood at 18,820,846. The number of births was 650,667 last year; which was 33,000 less than that of the previous year, but above the mean of the previous ten years. The number of male children born was over that of females. During the year the number of still-born children was 6,557, of whom 3,506 were males and 2,851 females; the percentage of the still-born to those born alive being about one. The number of deaths registered was 611,742, being nearly 99,000 less than in 1891. The chief causes of death were cholera, influenza, and scarcity, all preventible causes.

The number of deaths of males were larger than those of females, but as more male children were born than females the preponderance of the former sex was still maintained. The mortality amongst infants under one year, and in children above one and under five years, was very high in comparison with older children. The greatest immunity from disease was amongst children between the ages of 10 and 15. Fevers caused the largest number of deaths, followed by bowel complaints and cholera. In Bombay city itself during the past year there were only 169 deaths from cholera, which is a striking comparison to the mortality from this disease in Calcutta and Madras. Throughout the Presidency the mortality from cholera is given as 42,900, being 25,000 more than that which occurred in 1891.

Included with the Sanitary Commissioner's Report is the Report of the Health Officer of the port of Bombay. From this we learn that in 1892 there were 48,192 vessels which entered the harbour, 36,514 left it, and those in the harbour amounted to 1,297. The number of passengers who arrived

as far as recorded, was 429,372, and 363,512 being the number which left. Of the latter, there were 19,499 Mecca pilgrims. The Report deals with the steps which were taken to prevent the spread of contagious diseases from infected vessels. When small-pox prevailed amongst the crew of a ship, the sick were sent to the infectious diseases Hospital and the remainder of the crew and passengers were at once vaccinated, put in quarantine, and all necessary measures taken to prevent the spread of the disease by disinfecting the ship. No pilgrim ships returned from Jedda with cholera during the year, although 12,787 pilgrims returned from Jedda. The Bombay Port Officer draws particular attention to the overcrowding of out-going vessels, as also to the defective ventilation and overcrowding of forecastles. A similar defect was recorded in the Calcutta Port Officer's report very recently, and steps have been taken in Calcutta to remedy this evil.

The Bombay Port Officer says,—A large number of the prilgrims never returned, whether they died at the *Haj* or returned to their homes by different routes, none can say; but it is believed the greater number of those missing are accounted for by starvation and epidemic disease in and along the land route to Mecca and Medina. Her Majesty's Consul at Jedda says that one-third of the prilgrims were paupers, and that sooner or later something must be done to prevent these people from going to Arabia in this condition, as it is almost certain death to them under present circumstances; further, that these annual pilgrimages draw about 150,000 pilgrims from all parts of the Mohomedan world, and without exaggeration it may be said, that 20 per cent die in ordinary years, and 35 per cent in years of epidemic disease. The pilgrims who return from the *Haj* describe the state of the sacred cities as filthy beyond description, especially after 'the sacrifice' on a certain date. The Report closes with the following remarks. "The point I wish to make clear is that whenever cholera threatens to invade Egypt or Europe, India gets the credit of originating it, and the Egyptian Board of Health, which is composed of delegates from nearly all European nations, endeavours, by means of quarantine, rigorously and often vexatiously enforced, to prevent the scourge from spreading towards Europe. I believe that whenever cholera reached Europe it had its starting point in Arabia, and found its way to Europe overland *via* Damascus and other Syrian cities. As the question is one of international importance, it would be well if the Egyptian Board of Health directed its attention to the sanitary condition of the *Haj* cities. It is stated, but with what truth I do not know, that the road from Jedda to Mecca and Medina is paved with bones."

In connection with the above remarks we would draw particular attention to a paper read by Dr. E. Goodeve before the London Epidemiological Society, on December 3rd 1866, as it has a remarkable bearing on this question of quarantine and the starting point of cholera.—The eyes of European Governments have after all been opened to the fact that these annual pilgrimages to Mecca are a very serious menace to the health and safety of the whole world, and it appears to us that it is more than probable that some decided steps will have to be ere long taken for the careful supervision of the *Haj*. Those who have not seen Mecca pilgrims on their journey can form a very poor conception of the terrible horrors of the great pilgrimage. The roads leading to the Holy City are strewn with dead bodies, and at Mecca the deaths from cholera have been even as high as a thousand a day. The dead lie in putrefying heaps, numbers are overcome by the poison-laden atmosphere and fall victims on the way-side. The burials of bodies at Mecca are in shallow graves, nature is outraged, and as a consequence the most horrible diseases are rampant. Remedies are not at hand, and the consequence is that thousands of pilgrims meet a miserable death. Upon every good Moslem this pilgrimage is compulsory, at least once in a life-time, and the dispensations it is supposed to confer are very highly esteemed. It is all very well to say that cholera ought to be stamped out of Mecca as has been said lately. The question is how? The whole Mahomedan world would be up in arms on any interference by *Kafirs* in their religious rites. The fact that the returning pilgrims come back in the very clothes they have travelled through the infected camps, constitutes in a great measure, as we have said, a very grave menace, and the Governments of Europe will act with much discretion if they unite towards minimising the danger. Possibly the Sultan might be induced to help in the matter, but it would we believe be nigh impossible to create a unanimous backing from the Mussalman community.

Medical News Letters.

LONDON LETTER.

[From our own Correspondent.]

Excision of Large Intestine.

Two successful operations for resection of portions of the large intestine have recently been performed in London. The first case occurred at St. Thomas' Hospital, the operator being Mr. Ballance. The patient, a woman aged 45 years, was suffering from intestinal obstruction the cause of which was unknown, after a median abdominal incision, the peritoneal cavity was explored and a growth found involving the sigmoid flexure. Another incision was made in the left iliac region, and the growth dragged out of this wound; the growth with about five inches of the sigmoid flexure was then excised, and the cut ends of the bowel stitched to the abdominal wall; a large glass tube was tied in the upper end by which the accumulation of fæces escaped. A fortnight later Mr. Ballance attempted to close the artificial anus by making an anastomosis between the descending colon and the end of the sigmoid flexure, but was unsuccessful. The patient, however, is quite recovered from the operations, the only trouble being an artificial anus. The tumour proved to be a cylindrical epithelioma. The second case occurred at King's College Hospital under the care of Dr. Norman Dalton. A moveable tumour could be felt in the region of the cæcum, and there were attacks of

incomplete obstruction. Mr. Burghard operated, having completely excised the cæcum with two or three enlarged mesenteric glands he sutured the end of the ilium to the ascending colon with silk Lembert's sutures. The patient did not have a bad symptom, she passed flatus the following day and a natural motion on the sixth day. The growth was epitheliomatous. The two results are very satisfactory, and should encourage physicians to call in surgical help in all cases of intestinal tumour, whether causing acute obstruction or not.

TREATMENT OF PATIENTS AFTER ABDOMINAL SECTION.

One of the most important factors, in the great decrease of mortality after abdominal operations undoubtedly is the more rational after-treatment which is now employed. Some ten years ago, it was the rule to starve the patients for the first 3 or 4 days after such operations, occasional nutrient enemata, only, being given, but at the present time most Surgeons give food by the mouth within twelve hours of the operation, commencing with barley-water and milk. To quench thirst, teaspoonfuls of hot water answer best, indeed much better than the iced-water which was formerly given; the hot water also tends to check vomiting. Quite recently it has been recommended to employ enemata of pure warm water into the rectum, about one pint at a time at stated intervals. Absorption from the rectum takes place so rapidly that fluids reach the blood by means of enemata almost as quickly as when direct injection is made into the veins. I do myself think that this plan is necessary, being quite contented with the action of hot water by the mouth. With regard to the administration of morphia; formerly it used to be an invariable rule to give hypodermic injections twice daily for the first 4 or 5 days, at the present time I have made it a rule not to give a single injection of morphia after an abdominal operation, unless the patient is extremely restless, for I believe that morphia in very many cases keeps up the vomiting, which we are so anxious to avoid. After 36 hours I allow the patient a cup of tea made with milk and a small slice of bread and butter; the next day milk, beef-tea and a custard pudding; and the third day after the operation the bowels having been opened either with an enema, or after a dose of white mixture, the patient is allowed fish for dinner. Should there be any tympanitis and a slight rise of temperature, the white mixture should be repeated till the bowels act well, the long rectal tube also is useful to remove flatus; the patient usually gets out of bed into a chair at the end of a fortnight. We now do not regard the mere fact of opening the peritoneum as adding to the danger of an operation, and it is not uncommon to perform a preliminary abdominal exploration before operating on a kidney for stone etc., the same is now done with a case of intestinal obstruction before colotomy, as instanced in the preceeding paragraph.

TYPHOID FEVER AT WORTHING.

The pretty little seaside town of Worthing in Sussex has recently been visited by a most severe epidemic of typhoid fever which has not been without its lesson. At the begining of the summer one case of typhoid occurred which was quickly followed by about 300 cases. It was then thought that the water works had been fouled by some men at work on them, one of whom had typhoid fever; however a week or two later fresh cases of the disease began to appear, and in all there have been about 1000 cases with as many as 93 deaths. The true cause appears to be a connection between a drain and the main pipe of the water supply. The epidemic is now practically at an end as all the water for drinking, and domestic purposes is brought from an adjoining town. The course of the epidemic is very instructive, shewing that as long as there was no case of enteric fever in the town, the existence of a communication between the sewer and the water supply caused no ill effects, but immediately one case of the disease appeared in the town, and so polluted the water supply, it was followed by 1000 cases.

THE CHOLERA.

During the months of August and September there have been some cases of Asiatic cholera in this country. The first authenticated case occurred at Grimbsy a sea-port town in the North on August 29th, but there had also been 93 fatal cases of diarrhœa during August in that town, about 21 of these were probably choleraic. During the first half of September there have been 7 deaths from cholera, and 73 cases of choleraic diarrhœa which have recovered. The patients are immediately removed to isolation hospitals, the bedding etc. is destroyed, the sanitary authority compensating the owners. An additional number of Medical Officers of health have been appointed. Grimsby is a low-lying town and its main sewer is tide-locked for half the day, the outlet is near a large mud flat and cockle-bed which is uncovered at low water; it is quite possible that these cockles may be cholera poisoned and so may have given the disease to people eating them. The other towns in which cholera has occured are Hull with 7 cases, Halifax with 3 cases, Rotherham with 2 cases, London with 3 cases; a few sporadic cases have also occurred in several towns. The present cold weather will probably prevent any further spread of the disease, and we may now hope that we have again escaped the severe visitation which was feared.

THE INDIAN MEDICAL SERVICE.

An Examination for not less than twelve appointments to Her Majesty's Indian Medical Service will be held in London in February, 1894.

Copies of the Regulations for the examination, with information regarding the Pay and Retiring Allowances, &c., of Indian Medical Officers, may be obtained on application to the Under Secretary of State for India, India Office, London, S.W.

The exact date of the examination, and number of appointments to be competed for, will be announced hereafter.

Sir William Moore, in a letter to the *Times*, urges that if the use of opium is materially interfered with in consequence of the representations of the missionaries, who are the chief agents of the crusade, the Indian people, misled by the agitators, will very probably regard this as the first step towards interference with their religion.

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Current Medical Literature.

CREASOTE IN TUBERCULOUS IRITIS.

Dr. Quint (*Wiener med. Presse*, No. 20, 1893) describes two cases of tuberculous iritis where creasote exercised a favorable action. The first case was that of a mason, twenty years of age, whose right eye had been affected for two weeks and his left for a week. On both sides there were slight posterior synechiæ; on the right side, upon the the posterior surface of the cornea, numerous yellowish-white deposits, but less abundant upon the left. Treatment with the usual remedies, mercury, iodine, and the salicylate of soda, continued for about nine months, was without result. On the contrary, the posterir corneal deposits increased, especially on the right side, numerous vessels shot out from the edge of the cornea, his sight decreased and a nearly complete annular synechia formed in spite of atropine. Iridectomy was done on the right eye and granules were found in the iris. An excised piece of the iris produced typical tuberculosis of the iris in the eye of a rabbit. Creasote was then given in pills, at first five drops and later ten. In two weeks there was a great improvement to be observed, in four weeks and after the use of an ounce of creasote, the deposits had nearly all disappeared, and the irritation as well. In five months all injection of the eye was gone and his vision greatly improved. No recurrence as yet. The second case was a fifty-two-year-old woman, who also had a typical tuberculosis of the iris. Here, also, after four weeks, and the use of six drachms of creasote, a distinct improvement set in. Her eye was nearly free from irritation, the deposits few and thinner, and the vessels disappeared. At present, nine months after the commencement of the disease and six months after institution of the treatment, by creasote, all irritation has disappeared, and only slight corneal opacities are to be seen as relics of the disease.

TREATMENT OF SYPHILIS BY SIMPLE APPLICATION OF MERCURIAL OINTMENT.

Dr. Welander (*Wiener med. Presse*, No. 20, 1893) finds simple application of gray salve to be as efficacious in the treatment of syphilis as inunction. In thirty cases where it was tried the various symptoms disappeared fully as quickly as with a carefully carried out treatment by inunction. Amongst these were four pregnant women with pronounced symptoms of secondary syphilis, and all these went on to labor at full term —a good proof of the efficacy of this method. Examination of the urine demonstrated that mercury was excreted by the kidneys. The procedure is very simple. Each evening on going to bed one and a half drachms of the ointment are spread on a portion of the body by means of a knife or spatula, and covered with a piece of linen. The patient keeps himself warmly covered in bed, yet not too warm, for profuse perspiration would rather hinder than favor absorption. The next morning the salve is washed off and a warm bath of ten to fifteen minutes' duration is taken. In this way the treatment is continued every evening, another portion of the body being chosen, as in inunctions. Of course, requisite care of the mouth must be observed. This method is much simpler than inunctions, and does not irritate the skin. He thinks that a salve containing more mercury could be employed, as, for example, Ziemessen's which consists of two parts of mercury and one of pure fat.

CONCEPTION ON THE FOURTH DAY OF CHILDBED.

Krönig (*Centralbl. f. Gynäk.*, No. 19, 1893) related an extraordinary and instructive case at a meeting of the Leipzig Obstetrical Society. A woman, now twenty-two, healthy and regular before her pregnancies, bore her first child on July 4, 1892. It was weaned on the tenth day, and is still living. On July 8th, the fourth day of the puerperium, the patient had connection, and then abstained for three months from coitus. The period did not return. In November, 1892, the motion of the child was felt. It was born on March 10th. It seemed as though it had reached term, yet it had come into the world 243 days after the only connection which had occurred since the first confinement, or twenty-seven days—practically a calendar month—before the normal average of 270. It was over twenty inches long, and weighed nearly seven pounds twelve ounces.

The shortness of the pregnancy was very remarkable, but the conception on the fourth day of the puerperium was still more notable. Ovulation, according to current theories, is entirely suspended during pregnancy, and does not recommence until, or a little before, the first period, which occurs between the sixth and eighth week after delivery in women who do not suckle. If ovulation was delayed so long in this case, the spermatozoa must live long; Bozzi certainly found them living seventeen days after coitus, in the posterior vaginal fornix; but in Krönig's case this delay of conception till the first period would have made the pregnancy much too short to allow of the birth of a well-formed child.

In short, ovulation went on quite independently of menstruation. How the impregnated follicle could find a fit place of attachment on the inner surface of the uterus is a more mysterious question. Yet the glandular structures developed during pregnancies are often completely shed by the third or fourth day after childbirth, so that there is soon enough normal endometrium to lodge a fresh ovum. It is evident that spermatozoa can live in the lochia.—*British Med. Journal.*

THE STRUGGLE BETWEEN THE ORGANISM AND THE MICROBE.

Sanarelli (*Ann. de l' Inst. Pasteur*) discusses the means by which the organism is defended against microbes after vaccination and during recovery. He studied the vaccinal immunity produced against the disease caused by vibrio Metschnikovi. At the outset he shows that this immunity cannot be due to any bactericidal property, to any attenuating power, nor yet to any antitoxic power possessed by the body-fluids of the vaccinated animal, for he finds that the serum of vaccinated animals possesses no bactericidal power as maintained by Behring and Nissen, and the microbes grown in such serum increase rather than diminish in virulence. Further, the serum of vaccinated animals possesses no antitoxic properties; microbes developing in such serum actually produce more active toxins than when they are grown in ordinary nutrient media.

Having eliminated these three possible causes of vaccinal immunity, he proceeds to show that the preventive and therapeutic properties of this serum depend upon the power possessed by it of causing active phagocytosis. The microbes are engulfed by phagocytes, and enclosed in these they retain their vitality for a considerable time. He believes that, although remaining alive at the seat of inoculation, these microbes produce no toxins after being enclosed in the phagocytes, for the blood-serum of such animals is not capable of destroying the

toxins if they were elaborated. He finds that marked leucocytosis occurs in vaccinated animals, and in those treated by therapeutic serum, but the leucocytes undergo a most remarkable diminution in other cases. This he connects with the chemiotactic relations between the serum and the phagocytes. Preventive serum does not influence the diseased organism by any action on the bacteria, but by stimulating the proper cells to activity, thereby causing a concourse of phagocytes at the seat of inoculation. When this concourse of phagocytes is prevented, as by exposure to cold, the preventive serum has no effect and death results.—*St. Louis Med. and Surg. Journal.*

VASELINE IN CERTAIN AFFECTIONS OF THE MIDDLE EAR.

Dr. Delstonche (*Le Bulletin Mèdical*, No. 8, 1893) speaks highly of injections of liquid vaseline in adhesive affections of the ear. He injects it through the Eustachian tube into the tympanic cavity. It is perfectly inocuous, and from an experience extending over several years he finds it of value.—

1. To rupture extensive adhesions of the tympanic membrane with the wall of the labyrinth where insufflation of air, etc, are found insufficient. He has had several cases of partial success with forced injections of the liquid vaseline.

2. To clear out mucous accumulations from the tympanum during the course of certain chronic catarrhs. It forces the mucous into the mastoid cells, where it no longer interferes with hearing, or into the pharynx.

3. To diminish the chances of inflammatory reaction after paracentesis of the tympanum, where the matter filling the tympanum is dense or viscid, and will not evacuate itself spontaneously in a satisfactory manner. Here, from its inocuity, it is to be preferred to any other liquid.

4. To open an obstructed Eustachian tube when mucus blocks it and prevents insufflation of air, a few drops of vaseline blown through the catheter will clear it at once. Hence this simiple means is always to be tried before dilatation with sounds is attempted.

5. Finally, in acute inflammation of the middle ear, either with or without perforation, especially in purulent otitis complicating influenza, massive injections of liquid vaseline saturated with iodoform render signal service, from their sedative action upon the atrocious pains which often accompany this affection. They also appear to hasten and aid to a favorable termination.

OPERATIONS ON CARCINOMATOUS UTERI.

Tipjakoff (*Cenbralbl. f. Gyn.*, 1893, No. 43) reports fifty cases of uterine cancer operated upon without a death. In thirty-five cases the disease affected the cervix, in twelve the body of the uterus, and in three there was involvement of the uterine cavity. Amputation of the vaginal portion was done in five cases, the high amputation in twenty-five, and total extirpation in twenty cases. When the carcinomatous growth has affected the whole of the cervix he is in favor of total extirpation. He commences at the sides, then in front, and leaves the opening of the posterior vaginal vault to the last. He does not retrovert the uterus, but draws it downward after it has been freed. He uses silk sutures and ligatures exclusively. The vaginal wound is never sutured, but is tamponed with iodoform gauze, which is changed on the fourth day.—*N. Y. Journal of Gynecology and Obstetrics.*

MODERN TREATMENT OF TUBERCULOSIS OF THE JOINTS.

Prof. Konig finds the treatment of this affection to be ill-defined. In only one-fifth of the cases is the articular localization the only affected spot, while in the other four-fifths other portions of the body are affected, the articular tuberculosis being a metastasis of the disease. When antisepsis was introduced an early resection was thought indicated. A reaction set in and compressive bandages, immobilization of the joint by means of a plaster dressing were tried, with success. These means cured nearly one-half the cases. The coxitis of young persons is usually treated thus. The contracture is removed by extension, and plaster bandages are applied until the joint is painless and serviceable. In case no special disturbances set in this lasts from one to two years. A certain number (the grave ostal processes) do not improve with their associated abscesses and soft fungous granulations and pronounced tuberculous dropsy of the joint. Some of these may be cured by intra-articulate injections of iodoformized glycerine. About 30 per cent. of these are cured by this means. They are extensively diffused processes with purulent or diffuse dropsy of the joint. If no improvement be observed after four or five injections they should be discontinued. If these measures are insufficient in cases with abscesses of great gravity, caseating forms, and in servere osseous tuberculosis, the treatment must be operative. In cases with great extent of the disease, suppuration of the disease and simultaneous involvement of the liver and kidneys, amputation is not to be avoided, yet it is the exceptional case. The typical operation is resection with extirpation of the capsule.

TREATMENT OF INTERMITTENT HÆMOGLOBINURIA BY ANTI-SYPHILITIC TREATMENT.

Dr. Koster (*La Semaine Mèdicale*, No. 14, 1893) finds that hæmoglobinuria may, in some cases, have some connection with a previously existing syphilis, and cases have been recorded wherein anti-syphilitic treatment has cured the disease. The writer contributes a similar case. A man had contracted syphilis some four years previously without it leaving a trace. He had been attacked by intermittent hæmoglobinuria, which would be developed not only by cold, but also by muscular exercise, and especially after prolonged walking. His general health was good, he merely complained of slight malaise and chilliness. Transient albumiuuria would also accompany the hæmoglobinuria to disappear upon the urine resuming its normal color. Ergotine and quinine, together with tonics, produced no results, and hence the thymoloacetate of mercury was subjected subcutaneously. After the sixth injection the attacks disappeared completely, and did not reoccur, even after exposure to cold or prolonged fatigue. A few more injections were given, and he was discharged cured.

STREET SWEEPINGS AND RUBBISH.

There are three principal methods of disposing of city refuse: (1) To throw it into the adjacent streams or ocean; (2) to build houses upon it; (3) to utilize it. Naturally we careless and wasteful Americans choose the methods most expensive to the purse and to the health; we pollute our waters or building lots with what should be to us a source of profit. We are exhausting the nitrogen of our soils, while we import fertilizers from great distances, and waste, or worse than waste, the locally produced fertilizers, animal excreta and other products. In other countries the city secures a profit, and so does the garbage-contractor, by utilizing wealth that we expensively waste in sowing it, into our rivers and made-grounds, as excellent seeds for breeding luxurious crops of disease.—*Med. News.*

ANTIPYRINE.

Dr. Perdriel (*Medicinische Neuigokeiten*, No. 7, 1893) advises prescribing antipyrine with the bicarbonate of soda and tartaric acid, in capsules, as thus the nascent carbonic acid prevents the antipyrine from disturbing the stomach in sensitive persons.—[Pritchard.]

SURGEON'S PLASTER IN CHILBLAINS.

Dr. Goemer (*Medicinische Neuigokeiten*, No. 7, 1893) finds surgeon's plaster to be a simple and reliable remedy in chilblains. It is especially serviceable when the feet are attacked; it is easily applied to the big toe and heel. A salicylated plaster is of greater value, as it helps any decorticated spots to heal. The plaster is applied and allowed to remain on for three days, when the trouble will be found cured. After this it will possibly have to be renewed on account of its soiling easily. It may be used on the hands of cooks, and those who work in water.

CARBOLIC ACID IN ALOPECIA AREATA.

Dr. Bulkley (*Med. Neuigkeiten*, No. 6, 1893) advises, in this affection, to rub the spots with a 95 per cent. carbolic acid which. if necessary, may be repeated in fourteen days, and never more than two or three square inches be treated at once. The results claimed are rapidity and thickness in the growth of new hair.—[Pritchard.

THE BACTERIOLOGY OF VACCINE LYMPH, WITH SPECIAL REFERENCE TO AN IMPROVED METHOD FOR ITS STORING AND PRESERVATION.

S. Monckton Copeman, M.A., M.D., Cantab, in the *British Medical Journal* of June 17, 1893, has the following article:

In the volume recently published of the Transactions of the Bacteriological Section of the International Congress of Hygiene, held in London in August, 1892, will be found two papers dealing to a greater or less extent with this subject; the first by myself, the second by Professor Crookshank.

Although working quite independently, we both arrived at the conclusion, in which we are corroborated by Pfeiffer and many other observers, that although numerous bacteria can be grown in various nutrient media from specimens of vaccine lymph obtained in the ordinary way, yet that to none of these could be assigned the role of the actual vaccine virus, which as yet remains unidentified. For this reason I had assigned to these bacteria the term "extraneous," signifying thereby that their presence is not in any way essential to the successful action of the vaccine lymph. In this also Professor Crookshank agrees with me, for he says:

"None of these different species of bacteria are peculiar to vaccine lymph; there is no bacterium constantly present in human and calf vaccine, and there is not one which can be regarded as the contagium. To sum up, most of them are well-known saprophytic bacteria, and some are identical with bacteria commonly found in suppuration. Vaccine lymph is a most suitable cultivating medium for micro-organisms, and bacteria invariably get access to the contents of the vaccine vesicle."

A lengthy list is given by Crookshank of the various bacteria which may be isolated from human or calf lymph by the method of plate cultivations, but he does not state whether any —and, if so, what—precautions had been taken with regard to the collection of the lymph with which he experimented, neither does he attempt to distinguish between those bacteria which are commonly to be found and those whose presence is exceptional. I have shown, however, that there are three species of micro-organisms, one or all of which are almost universally to be found in every specimen of vaccine lymph examined, of which one—the staphylococus albus—is usually to be found in the upper layers of healthy skin. Of more importance is the fact that in certain cases, though rarely, I have been able to satisfy myself as to the presence of the streptococcus pyogenes, and moreover, it is on record, in certainly one instance at least, that the streptococcus of erysipelas has also been isolated from a specimen of vaccine lymph.

That untoward results should occasionolly, and, in certain cases, follow the inoculation during the act of vaccination of one or other of the various "extraneous" organisms which may be present in the lymph employed is not to be wondered at; indeed, I take it that it is rather a matter for wonder that the evil results following the present somewhat empirical practice of vaccination have been in the past so few in proportion to the vast numbers that have undergone the operation. It is most desirable that we should not, if it be possible to avoid it, run any risk of performing a septic inoculation on a patient under the guise of vaccination.

If only it had been possible to isolate the contagium of vaccina (or variola), and to carry on without loss of specificity, pure cultures of it in some nutrient medium from generation to generation, this portion of the problem would be solved.

Some two years ago, when experimenting on the possibility of isolating the specific contagium of vaccinia and variola, it struck me that the exuberant growth of evidently "extraneous" organisms, which I obtained in all the various nutrient media employed, might be capable of superseding the more important organism for which I was seeking. I therefore turned my attention to the discovery, if possible, of some means of treating vaccine lymph which should inhibit all "extraneous" organism without injuring its potency for vaccination.

Another point which directed my research work at that time in the direction I have indicated was that my attention was called to the opacity which commonly occurs, after a long or shorter period, in lymph which has been stored in sealed capillary tubes, and to the deterioration in activity of the lymph which is found to be a concomitant of such opacity.

In former papers I have shown that the opacity of old stored lymph may be quite independent of any coagulation in the lymph, as no coagulum was found on breaking many of the tubes in which it was most marked. Further, I have shown that if cultivation experiments are carried out with the contents of tubes which have become opaque, and also simultaneously, for purposes of control, from tubes of comparatively fresh lymph, many more colonies result in the plates poured from inoculations of the old tubes than in those for which more recent lymph is used. I concluded, therefore, that we are apparently justified in considering that the opacity of old stored lymph is, in the main, the outcome of an enormous multiplication of aerobic bacteria, the ancestors of which were present in the lymph when first taken, although their numbers were then so comparatively small as not to render it in any way turbid. These evidently find in the lymph, especially when removed from the body, a suitable medium for their subsequent multiplication, while at the same time it would appear that such growth has the result of gradually inhibiting the specific effect proper to the vaccine virus itsef. In this case also, then, the obvious indication was not only to prevent such multiplication of "extraneous" organisms subsequent to storage in the usual manner, but, if possible, to remove them altogether without injury to the actual contagium of vaccinia.

In the first place I made trial of the method of fractional heating which had, in the hands of Kitasato, met with such brilliant success in the isolation of the bacillus of tetanus. Proceeding in this manner and in every experiment observing the precaution of making control cultures, I presently arrived at a temperature, exposture to which is apparently incompatible with the continued existence of those mircro-organisms which can ordinarily be grown when vaccine lymph is inoculated into nutrient jelly. The required temperature ranged between 38° C. and 12° C.; but whereas after exposure for an hour at the lower register a few points of growth are occasionally seen in plate cultivations after the lapse of a day or so, while the higher temperature sometimes appeared to exert an injurious effect on the lymph, as far as regards the normal vesiculation which should result from its inoculation in the living animal, I sought for some method of readier application and requiring less delicate manipulation. This I at length found in the admixture with the lymph of a certain proportion (75 per cent.) of glycerine in distilled and sterilized water prior

to storage in capillary tubes, which latter also had been sterilized by heat.

Many years ago Muller showed that lymph might be diluted with three times its bulk of such a mixture and still retain its properties unimpaired, a fact which has been taken advantage of at many of the Continental vaccine stations, and by more than one purveyor of trade lymph. An argument in favor of the use of lymph diluted in this way with glycerine is found in the fact that such a mixture does not dry up nearly as readily as ordinary lymph, and therefore in the hands of operators, all but the most expert, affords greater facilities toward the attainment of a uniformly successful series of vaccinations. The fact also that a much larger supply of lymph is thus made available is so obvious that it need not be insisted on.

Not only is lymph thus treated effective as vaccine, in the old sense of the word, but as time goes on, instead of losing its effect on inoculation, its potency actually becomes increased. Experiment shows also that in tubes filled with such diluted lymph, opacity does not apparently result. As I have previously stated—an observation, by the way, for which I may fairly claim priority—the glycerine inhibits the growth of, and after a longer or shorter interval kills off altogether, those aerobic bacteria which we have termed "extraneous." This effect may be demonstrated by making from tubes of glycerinated lymph of equal age a series of plate cultivations at gradually increasing intervals of time, together with control cultivations from tubes of untreated lymph. (Photographs of such plates have been taken, but are not reproduced here.)

With the assistance of Dr. Cobbett I have also carried out a series of glycerine experiments on a larger scale, not only with the organisms which can be grown from vaccine lymph, but also with numerous other species of bacteria, both pathogenic and saprophytic in nature. With details of these experiments, which we shall hope to publish shortly, I do not propose to burden the present paper. I will here merely state that the nett outcome of our work appears to show that while some pathogenic organisms remain active in admixtures of broth and glycerine, or even in pure glycerine for longer or shorter periods, other pathogenic, and as far as our experiments go, all saprophytic organisms, are killed out in from three or four days to as many weeks.

At the time of writing, I have seen for the first time a paper (dated September, 1892) by Achille Sclavo Director of the Health Bacteriological Laboratory at Rome, on the "Preservation of Viruses in Glycerine." In this paper, which is very short, the author does not do much more than just refer to the use of glycerine as an addition to vaccine lymph, and has obviously not altogether appreciated the importance of the results to be derived from such admixture. Indeed, he appears to mention it merely as an exception to a rule, which he considers fairly general, that many bacteria are preserved rather than destroyed by glycerine. As, however, he confirms in several particulars the results at which we have arrived, it will be well briefly to epitomize the paper in question:

"Glycerine is added now-a-days in almost all vaccine institutions to vaccine emulsion, which by this means preserves its virulence for months and even for years. As a proof of this I adduce the following: Dr. Krieger (1), after some experiments with calf lymph, overlooked a bottle of lymph in a press. He found it and and used it eleven years afterwards, producing normal pustules and passing it through other subjects. The virus of rabies, too, remains unaltered in glycerine for a long time (Roux), and is active after six months (Uffreduzzi). Further, many bacteria live well in glycerine, and they may be found preserved in glycerinated vaccine emulsion for various lengths of time. Their number, however, gradually diminishes, so that after some months' preservation the emulsion may retain its specific activity but contain only a sparse number of living bacteria. I have extended my experiments in glycerine preservation to pathogenic bacteria found in the tissues of animals dead of infectious disease, using quite neutral unsterilized glycerine. I put spleens of such animals into 80 to 100 cc. of glycerine and kept them at the temperature of the room. Teased portions were subsequently inoculated subcutaneously in living animals. The bacteria used were the diplococcus of Frankel, the bacillus of fowl cholera, and that of anthrax (? spore form)."

Conclusions.—The diplococcus of Frankel preserves its virulence in glycerine for not less than sixty-seven days (also at forty-four and fifty-eight days).

Bacillus of Fowl Cholera.—Virulent after seventy-four days in glycerine, but killed by stay of four months.

With anthrax virulence gradually decreased, ceasing in one experiment on the seventh, and in another on the ninth day. At earlier periods incubation was prolonged in the living animal, and there was extensive subcutaneous œdema while bacteria showed a tendency to form long filaments in the blood, so that it may be that the anthrax bacillus underwent a gradually decreasing degree of attenuation in the glycerine.

Of considerably greater importance, from my point of view, however, is a paper by Chambon and Menard (1), which recently appeared. In it these gentlemen relate their experience of the use of glycerinated vaccinal lymph when kept for a long time in capillary glass tubes previously sterilized and closed by the blowpipe. The results they obtained with lymph originally good were highly satisfactory, and even lymph which, in its fresh state, gave mediocre results, in the course of fifteen days produced a passable vesicle, and after forty, fifty or sixty days, a typical one. The improvement seemed due to the gradual extinction of parasitic microbes under the influence of glycerine and time.

Professor Straus made plate cultures with their glycerinated lymph, which showed that when fresh it gave rise to numerous colonies of various microbes, especially staphylococcus pyogenes aureus and staphylococcus albus, while the glycerine lymph fifty to sixty days old remained absolutely sterile, intermediate specimens presenting fewer and fewer microbes as they became older. These experiments were repeated many times, and invariably with similar results.

This evidence, so entirely corroborative of my own work, is all the more important as it appears certain, from a perusal of the original paper, that the authors were ignorant of the precisely similar results at which I had previously arrived, and which were published nearly twelve months before the appearance of their article.

There can thus, I venture to think, no longer be any doubt as to the superiority of the method of lymph storage which I advocate over the perhaps simpler method which has been so strenuously insisted on in England of late years; and I trust therefore that some authoritative pronouncement may before long be made on the matter, as it appears to me, at any rate, to be one which is of the utmost importance in relation to the present widespreading objection to vaccination on the score of the possible dangers incidental to the operations.

Special Communications.

THE ROYAL COMMISSION ON OPIUM.

THIS commission held its first sitting at the House of Lords on September, 8th. Lord Brassey presided. There were also present: Sir J. Lyall, Sir W. Roberts, Mr. R. Mowbray, M.P., and Mr. A. Pease. Sir C. Bernard acted as secretary. The commission was appointed to inquire:—

"(1) Whether the growth of the poppy and manufacture and sale of opium in British India, should be prohibited except for medical purposes, and whether such prohibition could be extended to the native States. (2) The nature of the existing arrangements with the native States in respect of the transit of opium through British territory, and on what terms, if any, these arrangements could be with justice terminated.

(3) The effect on the finances of India of the prohibition of the sale and export of opium, taking into consideration—(*a*) the amount of compensation payable; (*b*) the cost of the necessary preventive measures; (*c*) the loss of revenue. (4) Whether any change short of total prohibition should be made in the system at present followed for regulating and restricting the opium traffic and for raising a revenue therefrom. (5) The consumption of opium by the different races and in the different districts of India, and the effect of such consumption on the moral and physical condition of the people. (6) The disposition of the people of India in regard to—(*a*) the use of opium for non-medical purposes; (*b*) their willingness to bear in whole or in part the cost of prohibitive measures."

SIR JOSEPH PEASE, M.P.

The first witness, Sir J. Pease, M.P., president of the Society for the Suppression of the Opium Trade, said they desired China should be left perfectly free to act with regard to opium and the duties upon it; and that Indian opium should be kept out of China as being a source of great demoralisation to the Chinese. The cultivation of the poppy in India was limited according to the financial needs of the Government. Until the other day, there was a clause in the Bombay licence rendering the holder liable to a penalty if his sales fell short of the minimum number of pounds specified in the licence. The State tried by every possible means to obtain fresh and larger sales. He could not say he was prepared to recommend the Indian Government should merely be a licenser of the cultivation of the poppy and the manufacture of the drug. His society had always considered the opium trade to be an immoral trade, because it was one which was carried on greatly to the detriment of the human race. In the Act of 1868 (31 and 32 Vic., c. 121) opium and all preparations of opium were scheduled as poisons. In India, with rare exceptions, the drug had never been cultivated as a medicine; the supply of medical opium in this country came not from India or any of our own Colonies, but from Persia and Turkey, the Indian drug being excluded as not up to the standard of our pharmacopœia. Whilst some races in India could take the drug to a moderate extent, the greatest quantity of Indian opium went to China, where it was used simply for debauchery. As to the argument that if India did not supply China with opium, China would supply herself, he had no right to do that which was wrong because somebody else would do it; otherwise one might rob a traveller on the road if one knew that at the next turning there was a footpad waiting for him. He had no doubt the growth of opium in China had been stimulated by British influence. So long as Indian opium was coming in it was natural for the Chinese to grow their own to keep their dollars at home. Putting the exports of Indian opium into hundredweights there were 113,000 cwt. exported in 1880-81, 96,000 in 1889-90, and 97,000 in 1890-91. He thought there was a slight tendency in India to increase the local consumption. He thought he could show there was a very large amount of care now being exercised on the part of the Government officers of India in diminishing the consumption of opium in India: and he looked upon that as one of the greatest proofs possible that there was a moral evil connected with the sale The highest opium revenue was in 1880-81, when it amounted to 8,451,000 tens of rupees; and the Budget estimate for 1892-93 was for 5,399,000 tens of rupees showing a falling off of 3,000,000. He was prepared to recognise it was no longer the policy of this country to use force or pressure to compel the Chinese Government to admit the importation of opium from India. The Treaty of Tientsin, in his view, could only be recast every ten years. There had been memorials and petitions to Parliament from the assemblies of, he believed, every Christian Church. The missionaries in China and India supported their views. As regards the views of public men, there was a despatch from the East India Company to Lord Cornwallis in 1817, which contained the following words :—

"We wish it at the same time to be clearly understood that our sanction is to be given to these measures, not with a view to the revenue which they will yield, but in the hope that they will tend to restrain the use of this pernicious drug and that the regulations for the internal sale of it will be so framed as to prevent its introduction into the districts where it is not used and to limit its consumption in other places as nearly as possible to what may be absolutely necessary. Were it possible to prevent the use of the drug altogether, except for the purposes of medicine, we would gladly do it in compassion for mankind."

He thought the constituencies took a very great interest in the opium question. In California there was a State law against the sale of opium; in Victoria anti-opium legislation was being proposed; and the Dutch were agitating on the subject with reference to Java. In Burma the Indian Government had at length taken steps to extinguish the opium curse, because its use was condemned by the Buddhist religion The Indian Government in 1880-81, when it had the highest opium revenue, had an income of seventy-four millions of tens of rupees; in 1892-93 the estimate for the Indian Government was a revenue of eighty-eight millions of tens of rupees. If the opium revenue had coutinued the same it would be ninety-one millions, but they had done without the three millions by which the opium revenue had been decreased. Where had all this money gone? The Army charges, exclusive of the Afgan War charges in 1881-2, were 13,700,000 tens of rupees in 1892-3 the Army Estimate was 21,159,000; and in 1893-4 it was 22,242,000. That was an increased expenditure of something like £8,000,000 on the Army. He was not there to say that that Army expenditure was entirely unnecessary, but he advocated the extension of railways in order to open up the country. India had 280,000,000 inhabitants, and only between 14,000 and 15,000 miles of railways. America had 65,000,000 of people and over 120,000 miles of railways. The uncertainty of the opium crop made revenue from it one that could not be relied upon. If the trade was not an immoral trade, it was as low a trade as could be conceived. For a great Government to be trading in a drug, nine-tenths of which, it must be admitted, was used for debauchery, and not for any good purpose whatever, was about as low a position as any country could take. He hoped that the Government of India had given up the idea of extending the growth of opium, and had decided to gradually diminish it. He had always taken the view that the Indian side of the question was not nearly so important as the Chinese. He thought that the system in India, as regarded internal consumption, had lately become strongly repressive, owing to the agitation in this country, and the increasing vigilance of the Indian Government. He did not think that system could be improved, unless by totally prohibiting the cultivation, except for medicinal purposes, and requiring the sale by licence of medical opium.

Sir James Lyall: Are you aware that the number of druggists' shops in England and in an English town is very much larger than the number of opium shops in any part of India?—I have had no statistics before me, and I could not give an opinion. I think there is great reason to believe that you may have further restriction in this country.

Are you aware that opium is very largely used in India as a medicine?—I am quite aware that they use it, but whether it is used for medicine I cannot say.

How would you explain the fact that the Chinese in the Straits, in Hongkong, in Shanghai, in California, and in Australia are a large portion of them opium smokers; and yet as merchants, clerks, tradesman, gardeners, artisans, and labourers they are admitted to be very shrewd, industrious, and successful, not only easily beating the Indians, Burmese, Malays, and Japanese who meet them, but also beating Europeans, and being notorious among Asiatics for honesty in performing their contracts?—My experience is that an excess of stimulants occasionally taken has often characterised the very best workmen I have known.

Supposing the Chinese Government were sincerely desirous to reduce the trade, but could not absolutely prohibit it, would not its most practical and natural course be to follow the ex-

ample of the Indian Government in Madras and Bombay?—I should think that would very likely be what the Chinese Government would do, and it would have my hearty co-operation if it was with a view to steadily diminishing the quantity.

Might not the Government of China find it necessary to take up very much the same position as the Government of India does in Bengal?—Yes. But my belief is that the Chinese do not and will not believe in the sincerity of the British Government's giving up the introduction of opium into China. If they see that we are not going to send opium into China, their whole policy might be considerably altered.

PROFESSOR J. LEGGE.

Professor James Legge, professor of the Chinese language and literature at Oxford, said he had resided for many years among the Chinese people, thirty years as missionary in connection with the London Missionary Society. He had a wide opportunity of studying the effect of opium smoking upon the people. In all his experience he had never met one person who spoke of any benefit or any advantage that was derived from opium smoking, but, on the other hand, there were endless stories of ruin, disease, suicide, and death as the result of the habit. He did not believe there was a single man in China, even among those addicted to opium smoking, who would offer any justification or excuse for the indulgence. There was no class in China free from the habit, but it manifested itself sooner among the poorer class than the richer, for when a man was wealthy he indulged his desire for the opium pipe without the ill-effects taking the effect upon him that they had upon the poorer man. The Chinese (he admitted) were the most industrious people he ever became acquainted with. They were generally not so tall, perhaps not so muscular as Englishmen; but he had often come into contact with a Chinaman of whom he was glad to get quit. When an opium smoker came under the power of the habit, he could not work so well unless he refreshed himself. His experience was that it was exceedingly difficult to indulge in opium smoking to a limited degree without afterwards taking too much? The habit of opium smoking did nothing but evil. He had often heard indignant expressions from Chinese against England for forcing opium upon them whilst they (the English) forbade its use in England except for medical purposes.

By Sir James Lyall: Is any alcoholic liquor drunk in China?—Very little. In thirty-four years I have often been in such large cities as Canton, and I never saw but one Chinaman drunk, and he was not very drunk.

Why do the Chinese avoid liquor and smoke opium?—They have smoked tea for 2000 years. There is a great deal of moral training in China—more than we are inclined to give them credit for.

With this moral feeling why does not it tell against the smoking of opium?—It does tell; and until the people have become enslaved they speak against it. I believe that the percentage of opium smokers in China is not more than 20 per cent. of the population, but it is increasing very largely from year to year, and the ruin of China becomes more threatening.

Do you think there is any danger, if opium were prohibited, that the Chinese would follow the Japanese and drink a great deal of liquor instead?—I cannot tell.

Do you think there is any probability of the Chinese Government ever stopping the growth of opium in China?—Who can tell about the future? But I say we ought not to supply opium to them.

By Sir William Roberts: The quantity of opium grown in China was, perhaps, five times as much as that which came from India. Ten per cent, of the whole population of China smoked opium.

DR. MAXWELL, M.M.A.

Dr. Maxwell, formerly a medical missionary in China, and at present secretary to the Medical Mission in London, said he had resided for many years in Formosa, where he conducted a dispensary, which was largely attended by persons seeking relief from the opium habit. He calculated that not fewer than 20,000 persons seeking to escape from the bondage passed through the hands of medical missionaries annually. These chiefly belonged to the shopkeeping and labouring classes. Large numbers of the wealthier classes took opium, but they did not come into the missionaries' hands. In Formosa, men and women alike smoked tobacoo, but in ten years he never had a patient who wanted to be relieved from the habit of tobacco smoking, nor did he ever hear it suggested that tobacco was a curse. A tobacco smoker could give up the habit at will, but the opium smoker could not.

Lord Brassey: Can a man never give up opium without assistance?—Witness: No; because the physical ordeal is so severe. The patient's bones ache all over, he can neither sleep nor work, and the agony becomes almost unbearable.

What are the physical evils which result from the opium habit?—I found most of my patients more or less emaciated, and one of my rules was that if after a fornight the patient did not begin to put on flesh I refused any more medicine, knowing I was being deceived. Then the opium smoker is particulary susceptible to a number of diseases, and owing to low vitality falls an easy prey. He is liable also to severe attacks of diarrhœa. Not many patients were seen to die from opium, it was true, but they died from other diseases to which they had rendered themselves peculiarly liable. He described the moral effects of opium as being of the worst possible kind.

REV. JOSEPH ADAMS, U.S.A.

On Sept. 9th. Rev. J. S. Adams, of the American Baptist Mission to China, said he had had thirteen years' experience in China, and was now in Europe on a holiday. He was in Burmah from 1875 to 1879, and from personal observation he could testify that the Burmese authorities were opposed to the use of opium by their people. From Burmese elders and the Buddhist archbishop he learnt that the principal reason was that the people themselves were so weak in the face of opium and liquor temptations, and also that the Buddhist law prohibited the use of intoxicants. Ancient laws of the kingdom of Ava forbade the same thing. Among the four races of Upper Burma—the Chins, the Shans, the Chinese, and the Burmese—the Burmese were the more decidedly susceptible to the influence of the drug, and the Chinese seemed to resist its influence more than even the hill men; but in all cases where the habit was once formed there was emaciation of the user and his moral character also suffered. A native who once contracted the habit very rarely gave it up of his own will—in fact, the opium seemed to deprive a man of will power. Statistics of the use of opium by Chinese in China itself showed that ninety-five per cent. of the persons dismissed from the mission hospitals and dispensaries as cured returned to the use of the drug within a very few weeks. The term "moderation" could hardly be applied to the use of opium, because whether a man took a large quantity or a small quantity, it had to be taken at ever-recurring intervals, and in the course of time the quantity had to be increased. When Burmah passed under the rule of the Government of India a very important proclamation was made in English, Burmese, and Chinese to the effect that the Queen-Empress would not receive a revenue from the sale of opium in Burmah, and a law was put upon the Statute-book making it penal to sell opium or its preparations to men of the Burmah race. At the same time, the possession of opium or liquor by the Burmans was not an offence; but it had been made so during the last year. In his opinion the law had not been successful principally because the strangers in Burmah were allowed to purchase and use certain quantities, and any Burman wishing to get opium or liquor from any of the licensed shops could do so by getting a native of India or a Chinaman to purchase it for him. Total prohibition would be the only means to save Burmah from the excessive use of opium. He had been informed that many of the Burmese elders had offered to substitute other taxation for the revenue derived from opium; and he thought total prohibition would be

gladly received by the respectable class of Chinese residents in Burmah. In China it was sometimes taken in the shape of laudanum dissolved in spirits, or in the shape of a pill washed down with tea. He never met a Chinaman who defended opium-smoking; they all looked upon it as a thing to be ashamed of.

REV. J. HUDSON TAYLOR.

Rev. J. Hudson Taylor, Founder and General Director of the China Inland Mission, and a member of the Royal College of Surgeons, said he had been a missionary in China since 1853 As to the physical effects of opium on the Chinese, they were first, the interference with the nutritive system. Then it affected seriously the nervous system. It was a proverb among the Chinese that a Chinaman turned night into day, and day into night. It had a very serious national effect, as it was very frequently connected with immorality. When both husband and wife were opium smokers the children were very feeble, of low vitality, and easily carried off by childish diseases. He did not think that opium smokers, as a rule, lived as long as the rest of the population. Then, as to the mental system. the first effect of opium was as a stimulant. An opium smoker would often do his best work when under the influence of the drug. But there was a depressing effect also, and ultimately there came a dulled mental state when, unless the stimulant was kept up, the men got sleepy, neglected their work, and went down. But the most painful effect was on the moral system. Opium smokers had always a dulled conscience; he did not think there was any exception. Natural affections seemed, as a rule, to be first lessened and then to disappear, and in very many cases, when poverty came on as a very natural result of opium smoking, the children were disposed of and the wife might be sold, or still worse When he himself first landed in China opium smoking was comparatively rare, but it had spread very rapidly during the last twenty years, still more rapidly during the last ten. He dared tell no Chinaman that if they (the Chinese) were to exclude opium there would be no warlike measures taken. He thought it would not be easy to convince the Chinese unless they had an authoritative declaration from the Government that they were likely to reverse their whole policy since their first war with China. He would suggest a communication to the Chinese Government. They had made very widely known the fact that there was an anti-opium society and a large anti-opium feeling in England, but the Chinese said to them, "You have talked a great deal, why don't you act?" He had seen coolies who were not opium smokers who could carry 330lb. avoirdupois over high hills, but he had never seen opium smokers who could carry more than 100lb. Only about 10 per cent. of those who took opium did not show signs of its injurious effects. and the constitutions of these even might be a good deal undermined without that being apparent.

Lord Brassey: Can it be said that the opium habit is on all fours with the use of alcoholic beverages?—It is far worse, I think.

Sir James Lyall: You mentioned the taunts the Chinese are apt to use in speaking of the missionaries. In the pro-opium literature I have seen it stated that the Chinese are a very conceited people, and very proud of their own civilisation and philosophy; that they resent very strongly the attempts to alter their habits and customs and religion; that their conceit is very much injured by missionaries trying to impress upon them that their religious ideas are all wrong, and that they must take a new religion; and that this assertion of theirs about opium is a Chinese way, and a very characteristic way, of meeting the missionaries—that it is not really felt and believed in very much by the Chinese generally, but is a mere argument used by them. Do you think there is any truth in that?—I do not think there is much truth in it. During my long residence in China I have had the personal friendship of a large number of Chinese—some officials, a large number non-officials, some of the literati, and a large number of the middle and lower classes. I am quite satisfied that there is an honest, conscientious belief in the minds of these people generally that we are the enemies of their country, largely on the ground of opium, but also because we have forced ourselves upon them, undoubtedly. It is a mixed idea; it is not only the opium?—If you removed all ground that there is in the opium cry, it would still be far from possible to be friends with the Chinese; they would still be as opposed as ever to our forcing ourselves upon them or breaking up their civilisation and their customs?—It is much easier to raise a prejudice than to remove it. It would not be the work of a day to remove the prejudice raised by our encouragement of the opium traffic all these years. Rightly or wrongly there is a belief that the wars have been fought to introduce opium, and that the opium has been the thing of all our manufactures and imports that we have been most eager to protect and to push.

REV. C. FENN, C.M.S.

The Rev. C. C. Fenn, one of the secretaries of the Church Missionary Society, said he had for some years had charge of the China correspondence. The Society had sixty-six missionaries in China, and he read letters from a number of them strongly condemning the opium trade. It would be difficult to establish in the Chinese mind a true view of the altered attitude of the British Government in relation to opium as stated in the House of Commons by Sir James Fergusson, unless the export from India was stopped. He believed that would not cost more than £3,000,000 or £4,000,000.

REV. G. PIERCY.

Rev. George Piercy, the founder of the Wesleyan Mission in China, said he resided in the south of China for thirty-two years from the foundation of the missions in 1850, and had since been in London looking after the Chinamen who came to this country. The evidence already given he generally agreed with.

MR. J. G. ALEXANDER.

Mr. Joseph G. Alexander, secretary to the Society for the Suppression of the Opium Trade, handed in the publications of the society, showing the various proposals it had made from time to time for dealing with the opium question. This concluded the evidence for the day, and after sitting a short time in private the Commission adjourned until Sept. 13th.

MR. B. BROMHALL.

On Sept. 13th, Mr. B. Bromhall, general secretary, gave details of the work of the China Inland Mission. He had never resided in China. Had received letters from missionaries which conveyed the impression to his mind that opium smoking was physically, mentally, and morally, the most awful vice that could be indulged in; that our encouragement of the trade was the greatest commercial and moral mistake that this country could have made; that the extension of poppy growing in China was rapidly bringing that country to ruin; that it was the greatest hindrance to the spread of missionary work, and there was no hope of dealing with the evil until we put a stop to our opium trade from India. Chinese officials, seeing so many millions of silver leaving their country for the purchase of foreign opium, connived at its local growth in order to prevent this drain on the resources of their country. If the Chinese had a free hand, and were left to themselves, he believed the officials would make a great effort to stamp out the evil. Witness read a number of extracts from letters in support of his contentions.

SURGEON-MAJOR PRINGLE.

The eidence of Mr. G. Graham Browne, who had been a missionary in China, in the city of Lu-Chan, in Sichuen, the Rev. A. Elwin, for twenty-three years a missionary in China chiefly in Han-Chow, Mr. Marcus Wood, of the China Inland Mission, seven years resident at Gan Kin, and Mr. Brown, of the methodist Episcopal Church Mission having been taken, Surg.-Major Pringle, who had been thirty years in the Indian service, mostly in the North-West Provinces, said he had been connected with the 53rd Bengal Native Infantry. Opium was invaluable for medical purposes, but entirely unsuited for dietetic purposes. He had never heard it suggested as a febri-

fuge in malarious diseases. He considered the opium traffic the one blot on our rule in India. Any soldier who depended for his stamina on the use of opium he considered as utterly useless.

DR. SWANSON, D.D.

Dr. Swanson, D.D., of the Presbyterian Mission in China, over twenty-one years in the southern part of Fuh-Kien, confirmed what had been said as to the deleterious effects of the use of the drug. He advocated the entire restriction of the importation from India.—Mr. D. Matheson and Dr. Gould also gave evidence.

SIR JOHN STRACHEY.

On Sept. 14th. Sir J. Strachey gave evidence. He said he had resided 38 years in India, and had filled nearly every post that a member of the Indian Civil Service could fill. For the last eight years he had been a member of the India Council. He had been in charge of the finances of India, and was of opinion that it would be impossible to do away with the opium revenue. Moreover, the use of the drug was absolutely necessary and beneficial, and he should be sorry to see the day when the Sikh and Rajpoot regiments would be deprived of an innocent luxury. He did not believe that the use of the drug could be suppressed in India except by bloodshed. A single province of China produced more opium than the whole Indian Empire. As to China, it was entirely wrong to suppose that the consumption in that country would be lessened by the stoppage of the Indian trade The Chinese Government could stop the trade at once. He could only account for the agitation by the complete ignorance of India, and all things Indian which prevailed in this country. It was extremely difficult to say anything on the subject which had not been said over and over again. He could suggest no means whereby the cultivation of opium could be stopped, if it were thought necessary. The attempt to do so would involve grave political danger. The annual nett revenue of the Government of India was five or six crores of rupees. Opium was the most valuable product of the poppy, but it was by no means the only product. There was a large consumption of poppy seed and poppy oil. The total value of the poppy crop had been estimated at 19,150,000 tens of rupees, but it was impossible to say what would be the cost to India of suppressing the cultivation of the poppy, supposing such a step were practicable. Compensation was out of the question, for if we were to make India a present of £100,000,000 sterling it would not compensate her for the destruction of one of her greatest industries. The total revenue from opium for the year 1892-3 was 7,100,000 tens of rupees, and for 1893-4 it was estimated at 5,750,000 tens of rupees, the reduction being due merely to temporary causes. He knew of no means whereby this revenue could be made up if the opium trade were abolished. It was totally useless to talk about a reduction of expenditure, for that was as low as possible already. He asserted very confidently that the Government of India had never desired to encourage the consumption of opium either in India or China. On the contrary, they had endeavoured to discourage, by putting on the highest possible duties. There was no evidence whatever to show that the use of opium in India was a crying evil. It must be recollected, moreover, that India was a country larger than Europe, inhabited by different races who differed from one another as much as a Scotchman differed from a Spaniard, and it would be impossible to impose restrictions on all these races. He admitted that opium might be abused, but it was not done to any dangerous extent. Out of the 290,000,000 people in India, he had did not believe that 290,000 knew any thing of the opium dens. A Sikh regiment which consumed opium would bear comparison with our own Guards, and he could only account for this by the fact that the drug was used in moderation.

Lord Brassey: You say that the use of opium is not injurious to the people of India or China?—That is so.

You have no personal knowledge of China?—No I speak only from reports. I am under a strong impression that it is a complete mistake to suppose that the Chinese Government desires to put a stop to the importation of opium. I believe that there is no part of the revenue prized more highly by the Government than that derived from opium. The Chinese Government get two millions a year from the duties, and they have not the remotest idea of giving it up.

Lord Brassey: You think there would be political danger if we adopted a policy of prohibition?—The gravest.

Has not the revenue of India shewn a tendency to increase of late years?—Yes, in every branch.

The military expenditure has increased very much, of late, has it not?—Very largely.

Can you say whether it could be diminished?—It is quite impossible. The increase has been due to the advance of Russia. I believe it is as certain as anything can be that we shall one day have to fight Russia on the frontier, and if we are not prepared I know not what will happen. The fact of the advance of Russia is felt throughout the administration.

You would be glad to see the Indian Government independent of a source of revenue which must necessarily be precarious?—Yes, but on financial, not on moral grounds.

By Mr. Pease; Probably, if it were not for the advances made to the growers there would be less land under the poppy. My personal opinion is, that in the vast majority of cases the consumption of opium is perfectly innocent, just as in the majority of cases the consumption of wine and beer in this country is innocent. But I do not object to a revenue being raised from it any more than I object here to taxes on wine, spirits, and beer. If opium were really a source of demoralisation then he would agree that the policy of the Indian Government should be different. But if he knew that the Chinese would have opium in any case then he would not stop its sale.

Mr. Pease: You think we might as well have the profit of demoralising them as any body else?—No, that is not the way to put it.

SIR WILLIAM MOORE.

Sir William Moore said he had filled many official positions in India, including those of principal medical officer in Rajputana, and deputy-surgeon-general and surgeon-general in the Bombay Presidency. He had been thirty-three and a-half years in India. He commenced to investigate the use of opium in 1868. He had come to the conclusion that opium smoking was perfectly harmless to the constitution, and that drinking opium water was also practically harmless, and in many cases productive of very great benefit. The moderate use of opium brightened the intellect and strenghened the system; it rendered the people more able to go through fatigue, and, in seasons of want and scarcity, to do with less food. It was also, as he could prove by actual demonstration, in some degree a prophylactic in the case of malarious fevers. If taken to excess, opium did become injurious, but it did not do so much injury as alcohol. The opium-user never quarrelled with his neighbour, or beat his wife, or made arrangements to commit crimes; whereas a man under the influence of alcohol did all those things. A man who suffered from alcohol got disease of the heart, liver, kidneys, and other organs; but nothing of that sort occurred from opium, except that where there was a very large use of opium the last stages were accompanied by some degree of emaciation and diarrhœa. If opium were only obtainable in India as a medical prescription that would be a grievous interference with the social habits, and customs of large sections of the population. It would interfere with the Rajput, who, when he was going to make a journey from ten to twenty or thirty miles through the sands, generally took a cup of opium water as a stirrup-cup; and with the Rajput gentleman, who after his dinner at night produced the opium pipe or cup of opium water just as wine was produced in this country after dinner. The camel-feeder, who went out into the deserts to feed young camels, and stopped there for months, would not be able to do with his handful of grain and his camel's milk if it were not for the opium. The people who frequented the opium shops (and most of them went to the opium shops because they were suffering from some painful

malady) would not be able to go there and get the relief which they now got from it if the sale of opium were prohibited; the malarious fevers in the country would be considerably increased in severty; and the native chiefs in whose territory opium is grown would have grave cause for dissatisfaction.

By Sir William Roberts: The Rajputs, one of the finest races in India, were almost all habitual opium eaters. They were as healthy as they could possibly be as a class. As a general rule there was not a tendency with opium-users to increase the dose. There was no evidence whatever that opium used in moderation shortened life. The excessive use of opium in Rajputana was exceptional. Taking the total effect of the opium habit into consideration, his opinion, formed after many years' experience and investigation, was that it was more beneficial than harmful. In Bombay he had smoked opium in the shops with the people. Opium was generally used in Bombay, but not by the better class of citizens to so great an extent as in Rajputana, because most of them in Bombay had taken to champagne, if they could get it. The insurance societies did not impose a higher rate of premium for opium-eaters, being guided in that by the medical officers. All the societies in Bombay and Calcutta were addressed on the subject a little time ago, and they all gave the same answer. The practice of life insurance was largely resorted to amongst the natives. Some of the shrewdest business men among the natives took opium. Where there were hundreds coming into the lunatic asylums from the effects of the liquor called bhang, only five or six came in from the efiects of opium. The habitual use of opium did not spread among Europeans, because they had been brought up from their youth upwards to believe in beer and liquor and other things.

By Mr. H. J. Wilson: He would not go so far as to say that opium was good, but it did more good than harm. He advised the Commission to do as he did, go into the opium shops and try it.

DR. MOUATT,

Dr. Mouatt, who for twenty years was Inspector-General of Prisons and Asylums in India, gave his experience of opium-eaters in a Chinese district and in Lower Bengal. In thirty years he never saw an opium drunkard; and he had never seen a police brawl. The people had practised opium-smoking from generation to generation, and he had never seen a more active or intelligent people. Among 302,000 prisoners in the Lower Provinces not a single crime was debited to the use or abuse of opium. There were 2,200 admissions to the Lower Bengal Lunatic Asylum, and only eight of these were attributed to opium consumption. He maintained that the habitual use of opium was neither injurious, degrading, nor immoral, and it caused no mental degeneration of the race in any part of India. The revenue raised from opium was no more immoral than that raised from spirits in Great Britain—if so bad. It was not a general incentive to crime or destroyer of reason; and it was a valuable prophylactic in malarious dangers generally. The reasons for its proposed suppression were unsound, visionary, and calculated to cause much misery among certain nationalities; and it would be actively resisted by the more warlike races of India. In fact, he had never seen any ill effects of it during thirty years in India.

SIR GEORGE BIRDWOOD.

Sir George Birdwood, K.C.I.E., in giving his personal observation of the habitual use of opium during his fifteen years' residence in Western India, said he had been in medical charge of several Indian regiments and was probably more intimately familiar with all classes of the native population than any other European. He never once met with a single native suffering from what was called the excessive use of opium; and, excepting cases of accidental or wilful poisoning by opium, he never knew of a single instance of death from its use. On the contrary, the healthiest populations of Western India were distinguished for the so called excessive use of opium. As to opium-smoking, it was as innocuous as smoking hay, straw, or stubble. It had not the potency of the mildest tobacco-smoking, as judged by experiments on himself. He therefore always presumed that the morphia in "the smokable extract of opium" was all decomposed in the flame of the lamp at which the opium pipe was lighted before the smoke from it reached the lungs. Be this as it might, they found in China, as in India, that nowhere were populations so robust, industrious, and thriving as in the principal opium-producing provinces in the Empire. Those who held that the habitual use of opium was harmful should be the last to object to the State monopoly of the production of the drug in India. He himself held that it was essential to the health, wealth, and happiness of a vegetarian tropical people; and he would freely throw the cultivation and manufacture of it open to private enterprise, and raise as large a revenue from its export from India as it would bear. The whole public revenue of India might, in this way, be derived from its export, and the people of India left practically untaxed. Were the Imperial Government to force the Government of India to abolish the production and habitual use of opium in that country, an unlooked-for market of immeasurable magnitude would be opened to our gin and whisky distillers there also. Alcohol in a tropical climate was a frightful intoxicant—even tea and coffee had an intoxicating effect. Anything which would tend to put a stop to the use of opium and to the revenue derived from it would be a political error of the greatest magnitude. He thought the Government of India had acted very weakly in yielding to the pressure put upon them by the Anti-Opium Society.

MR. H. N. LAY.

Mr. Horatio Nelson Lay, C.B., formerly secretary to Lord Elgin, said opium was introduced into China as far back as the eighth century, and, though its importation had been prohibited, it was smuggled into the country, and now it was legalised by the Chinese Government. It was a misnomer to call the war with China the opium war.

SIR THOMAS WADE.

On September 15th. Sir Thomas Wade, G.C.M.G., K.C.B., said he had spent forty years in China, and was during the latter part of his service the British Minister at Pekin. No man who had lived in China as long as he had and who had been in contact with Chinese of all kinds, could deny that the excessive use of opium was an exceeding misfortune for that country. He had stated that proposition perhaps more positively years ago than he should be prepared to state it now. Opium was to a great number of people precisely what the moderate use of alcoholic stimulants in this country was—that was to say, it cheered the Chinese workman just as the British workman is cheered by his glass of beer. People who were engaged in intellectual employments, as well as people engaged in the very commonest employments, used opium for years with impunity. The introduction of opium into China was not to be set down to our charge, but the charge of Asiatic neighbours and Asiatic men of commerce. It was incontestable that the Chinese became acquainted with the poppy as a medicine very early in their history—say, twelve or fifteen centuries ago. The practice of smoking was most probably introduced from Manilla, *viâ* Formosa, certainly before our trade had at all developed itself. The Chinese were beholden certainly very early in the last century to their own production of opium for the supply which they, in the opinion of their Government or of certain officials, so abused as to call forth edicts on the part of the Government, or of those officials. As regarded our connection with the supply, he had heard between 30 and 40 years ago that the Indian supply could not have been sufficient for 2 per cent. of the whole Chinese population. The use of opium from their own supplies to the disadvantage of the population was noted long before our opium troubles began. In 1847 he set himself to work to acquire information upon the subject, and he learnt that the poppy was then cultivated in no less than ten provinces of China. That was certainly a noteworthy fact. So far back as 1837 or 1838 the native opium was regularly taxed in certain localities. As regards the effects of opium upon smokers, he had known people of every degree use it with impunity, and he had seen most dep-

lorable victims of it in every degree, just as he had in his own country in the case of alcohol. He had been into opium dens, and he had been on rare occasions into a gin-palace and the spectacles in the two were singularly alike. He did not say the one was to excuse the other; but experience of that sort should bar gentlemen from turning upon their own countrymen and denouncing this or that particular practice as if it were an exceptional thing and so frightful a sin that we were bound to make the kind of expiation for it that we did, say, for the negro traffic. When he found that the anti-opium people made statements which were neither more nor less than exaggerated, and that they doubted the truth of men like himself and others who gave testimony, he was compelled to think that a cause which required any such propping up could not have so secure a basis as the anti-opiumists were disposed to imagine. He knew of no point upon which what he was compelled to consider exaggeration on the part of the anti-opiumists was more conspicuous than in their account of our relations with China. People spoke of the first opium war, of the second opium war, and even of the third opium war. The first war, unhappily, would always inevitably be described as the opium war, for the seizure of opium by the Chinese Commissioner was an act which led to the disappearance from Canton of our then representative. Reading the whole of the history of our relations with China from the middle of last century to the period immediately preceeding that which was known as the opium war, he considered that our wars with China were directly traceable to the insolence and injustice of the Chinese in their determination to ignore relations with us The war of 1839 and the misunderstandings that led up to it would never have occurred had there been better relations. We had no access whatever of an official character to the Chinese authorities, and there were no means of negotiation or adjustment. Opium was a salient fact in that war, but it was by no means the whole war; it was merely an incident of it. The origin of that war came out of the fact that we had no relations with the Chinese; and the origin of succeeding wars out of the fact that our relations were very imperfect and still needed perfecting.

The Chairman: You have made it clear to us that in your view those wars were largely, if not mainly, traceable to the insolence of the Chinese in refusing to enter into friendly relations with us, and you contend that those wars were not promoted by a desire to force Indian opium upon China?—Not even to force trade.

Have you reason to suppose that the Chinese Government are sincerely anxious to put an end to the opium trade?—Sincerity of purpose is always more or less a delicate question I can only answer the question by putting another: Do you consider us sincere in denouncing a very large number of practices as we do? I should say a very large number of the Chinese are sincerely opposed to the opium trade. But there is an amount of inconsistency on the part of the Chinese that puts their sincerity very much into question. You will see the proclamations against opium all over the country, and you will see the poppy growing round the posts on which the proclamation is posted; and you have the regular taxation of it and a regular quotation of the revenue derivable from the native cultivation.

By Sir James Lyall: He thought that if we were to approach the Chinese Government, saying that we wished to put an end to the Indian opium trade with China, they would doubt our sincerity. If there were such a feeling in this country against the Indian opium trade as that which had existed against negro slavery, one might as well pull down the Houses of Parliament in order to put out a fire in Whitechapel; because in China there was a large opium-producing and opium-smoking population, accustomed to the use of opium long before the troubles with England began.

I understand you to say that you are not prepared to vouch for Sir James Fergusson's statement in the House of Commons?—I have not read anything in the treaty or correspondence that would bear out Sir James Fergusson's statement; but I do not say it is untrue. My own conviction is that you will never have a proposition from the Chinese Government on the subject.

Mr. Pease: I am requested by the Secretary of the Society for the suppression of the Opium Trade to state that they have never used the term "the second opium war."

MR. H. STUART LOCKHART.

Mr. H. Stuart Lockhart, Registrar-General of the Chinese in Hong Kong, said his post constituted him the channel of communication between the Government and the Chinese population of Hong Kong. The popular opinion was decidedly against the opium habit. He had never heard of any hatred expressed against the English on that account. If the people did not spend their money on Indian opium they would spend it on the opium grown by themselves, which, as was well known, was increasing every year. From the revenue point of view, the prohibition of opium would be disastrous to the Colony of Hong Kong.

Sir W. Roberts: Would it be possible to enforce prohibitory regulations?—Witness: I do not think so.

Sir J. Lyall: Do any number of Chinese in Hong Kong drink spirits?—Witness: Yes, drinking spirits is very general.

Do you ever see a drunken man?—No. A drunken Chinamen is very rare.

Do the same people drink spirits and smoke opium?—Many of them do.

DR. ROWELL C.M.G.

Dr. Rowell C. M. G., for twenty-five years chief medical officer under the Government at Singapore, said he had had great experience in the pauper hospital. About thirty or forty per cent. of the patients smoked opium, but most of them took it as a relief from their diseases. In the prisons criminals were given a certain amount of opium if their health gave way in consequence of their being deprived of it suddenly.

Sir W. Roberts: When the patients regained health did they go on smoking opium—Witness: As a rule. A great many of the smokers were lepers, and opium was the best thing they could have.

Do you think that the good opium does counter-balances the evil?—I have seen much more to shock me at home from the effects of alcohol than I have seen from the use of opium. Opium got the credit of a great deal that was really not due to opium, but to disease.

Mr. Wilson: What sort of diseases does a man take opium for?—Witness: Malaria, diarrhœa, leprosy, rheumatism. and such like maladies. It relieves them in a way that nothing else will do.

Mr. Langman, for eight years a missionary in China [Chien] (kiang province) said he agreed with the previous missionary witnesses as to the pernicious effects of opium, to which he attributed the animosity shown by the Chinese to foreigners.

SIR LEPEL GRIFFIN:

Sir Lepel Griffin. K.C.S.I., described the system of the taxation of opium in the native States. He said the Government never attempted to urge any native States to extend the cultivation. Opium was the life-blood of the native States. It was the thing by which they got the whole of their spare revenue and if there were an edict prohibiting the export of opium by them, they would be made bankrupt, and the Indian Government would be involved in the greatest unpopularity. Opium eating was not a common practice in India; it was too expensive. He thought the trade with China would improve, and he hoped it would, because the revenue from it formed in his opinion the least objectionable part of the Indian revenue. The people who took opium most in India—the Sikhs and the Rajputs—were the finest races in the country. The whole body of evidence regarding India showed that the opium did no harm whatever. A burden of five millions of taxation was raised from the peasants of India and placed upon a foreign

country which was perfectly willing to pay it; and now we were asked by irresponsible people to abandon that revenue at a time when we wanted the revenue very much increased, and when we must increase it unless we wanted to lose India. It was madness, and there was no justification for it.

MR. HENRY LAZARUS.

Mr. Henry Lazarus stated that he had been in business in China and had employed large numbers of the natives; that he had never seen one of them unfit for work in any way in consequence of opium-smoking; that the Chinese he met were not ashamed of opium smoking and that they did not express hatred of the English on account of the opium trade. This was in contradiction of evidence previously given by the missionary witnesses.

SIR JOSEPH FAYRER.

On Saturday, Sept. 16th. Sir C. Bernard (secretary) read letters from Sir Joseph Fayrer, Sir Hugh Low, and Mr. T. W. Duff, who were unable to attend personally. Sir J. Fayrer said he was a surgeon and physician of thirty years practice and experience in many parts of India. Ideally one would wish that all stimulants and narcotics had no existence; but unfortunately human nature was so constituted that it would not forego the use of these drugs, each and all of which were liable to be abused, and which when so abused produced the most degrading and pernicious effects upon the human race It seemed to him that this crusade against opium, though well meant, was not reasonable. Both alcohol and opium in extreme cases were evils; but the moderate use of either must be left to the discretion of those who felt called upon to take it. There was another drug which was in frequent uee in India—namely, hemp, which was infinitely worse than opium. He found no objection taken to this drug by the anti-opium party. He could see no medical ground that would justify violent interference with the custom of taking opium.

SIR HUGH LOW.

Sir Hugh Low, who was for many years employed as administrator of Perak and other States of the Malay Peninsula under the British Government, intimated his decided opinion that there was no such abuse of opium in Perak and in the Colony of Labuan, in Borneo, as would make it politic to further interfere with its importation and sale than is done at present under the existing Government regulations. He had been informed by respectable Chinese that its use in moderation clears the intellect and renders men more capable of transacting important business. Its use was, however prohibited in the prisons of the States; and detention in these in which the sanitary conditions were excellent, the food good, and labour regular, invariably resulted in the improved physique of the inmates,

MR. W. LOCKHART.

Mr. William Lockhart, M.R.C.S., in reply to the chairman, said he went out to China as a medical missionary in 1838. He left China in 1864. During the latter part of his residence he had some half-a-dozen hospitals in his charge. He had had a very large experience of the effects of opium in China. Many of the Chinese took it in small quantities, and it was not particularly injurious to them if they continued to take it in small quantities, but it was such a seducing thing that they very generally increased the dose, and if they fell into evil circumstances and became poor they took to it in larger quantities. When they became victims of the opium habit it was decidedly pernicious and injurious to them in every respect: their mental faculties were not so particularly impaired, but the general system became so deteriorated and debased in every way that the people who were the victims of the habit were not allowed to give evidence in any legal proceedings in any of the courts of justice in China. They were not considered as free from corruption. That applied to those who took opium in excess—that is to say to the people who corresponded to our drunkards. It was wrong to say that a third of the population or a sixth of the population were victims of the opium habit, because there was not enough opium in the country to enable it to be taken to that extent. Opium-smoking in China was entirely confined to adults. The women smoked it, but not to the same extent as the men. In the districts in which he had resided about one in ten of the adult males were opium-smokers, seven to five per cent of these using it moderately and three to five per cent using it to an injurious degree. The Indian import was about 100,000 cwt. and the native growth was about the same quantity; but then the opium had to be boiled down to make it smokable and so the total quantity of smokable opium was only about two-thirds of the 200,000 cwt.

Mr. Mowbray: To what do you attribute the general belief of the Chinese that we forced opium upon them?—I never heard of such a belief.

Mr. Pease: With what Society were you connected?—The London Missionary Society.

MR. DAVID M'LAREN.

Mr. David M'Laren, formerly President Edinburgh Chamber of Commerce, said he had been engaged all his commercial life in the tea trade. He gave evidence as to the British and Indian trade with China and Japan showing the stationary nature of the trade with China and the progressive nature of the trade with Japan. In his opinion it was almost impossible to resist the conclusion that the very flourishing state of the trade with Japan as compared with the state of the trade with China was due to the absence in the case of Japan of the disturbing element of opium. It was not advantageous to British commercial interests to foster the export of Opinm to China. If China did not spend so much money on Indian opium, she might be able to buy British manufactures more freely. He admitted that China was now less able to pay for British goods because the Chinese teas had deteriorated in quality and Indian tea had become more popular in the British market.

DEPUTY-SURG.-GENERAL PARTRIDGE.

Deputy Surgeon-General Partridge, of the Bombay Army said he had served for thirty years in India, from 1855 to 1885, during which time he had come across numerous cases of people who had been brought down to a degraded condition through using opium. Opium-smoking was a vice which inflicted great injury upon the health of the people and tended to degrade them physically, mentally, and morally. The cultivation and manufacture of the drug for any other purpose than a medicinal one, was, he considered, a sin. India sent to China every year enough opium to kill 19,600 million people.

Sir W. Roberts.—Do you know that an analogous calculation with regard to the salt we take would bring out the same sort of conclusion?—I do not know anything about that.

Replying to further questions witness stated that Heron, Samson, Neil, and other murderers were opium-eaters. In the prisons under his charge he had never been afraid of stopping a man's liquor, even if he were suffering from delirium tremens; but he was always afraid of stopping the opium. He had been in some of the most malarious places in India, but had never been asked by the natives for opium as an antidote to fever. Children were easily killed by opium.

MR. ALEXANDER MICHIE.

Rev T. G. Selby, Mr. Cecil Polhill-Turner, and Rev. Thomas Hutton having corroborated previous missionary evidence against the use of opium, Mr. Alexander Michie gave evidence. He said he had been a merchant in China for many years. Opium smoking was not known in Japan—In fact, it was prohibited there; but it was generally admitted that the Japanese were very inferior to the Chinese in solidity of character and of physique. He did not believe that our connection with the opium trade had any effect on the attitude of the Chinese towards us.

This concluded the evidence to be taken in England. The Commissioners will hold their next sitting in Calcutta, on or about the 15th. of this month.

VITAL STATISTICS.

Stations.	Population,	Period.	Deaths.								Ratio of deaths per mille.	Births.	Ratio of births per mille.
			Cholera.	Small-Pox.	Measles.	Fevers.	Bowel Complaints.	Injuries and accidents.	Other Causes.	Total.			
Calcutta ...	681,560	Week ending 23rd Sept. 1893.	4	...	...	156	50	...	167	377	28·8	...	...
,, ...	,,	30th ,, ,,	13	...	...	168	71	...	153	405	31·0	...	...
,, ...	,,	7th Oct. ,,	20	...	...	185	51	...	169	425	32.5	...	...
,,	,,	14th ,, ,,	36	...	...	190	69	...	156	451	34·5	...	...
,,	,,												
Bombay ...	821,764	12th Sept. ,,	9	2	...	88	41	...	314	454	28·72	...	...
,, ...	,,	19th ,, ,,	8	1	...	102	36	...	282	429	27·14	...	...
,, ...	,,	26th ,, ,,	10	1	...	104	27	...	302	444	28·09	...	...
,, ...	,,	3rd Oct. ,,	3	2	...	90	38	...	294	427	27·01	...	...
,, ...	,,	10th ,, ,,	...	...	...	98	26	...	268	392	24·80	...	...
Madras ...	452,518	15th Sept. ,,	1	1	5	162	65	...	157	391	44·9	399	45·8
,, ...	,,	22nd ,, ,,	3	...	5	159	55	...	165	387	44·4	418	48·0
,,	,,	29th ,, ,,	2	1	3	139	50	...	144	339	38·9	379	43·5
,,	,,	6th Oct. ,,	2	...	4	140	46	...	154	353	40·5	448	51·4
,, ...	,,												
Delhi ...	...	Sept. ,,	...	1	...	217	32	7	168	425	...	802	...
Rangoon ...	...	8th Sept. ,,	...	1	...	38	10	...	50	99	28·54	...	...
,, ...	...	15th ,, ,,	...	...	...	25	8	1	65	99	28·55	...	...
,, ...	...	22nd ,, ,,	...	...	1	35	14	2	66	120	34·60	...	...
,, ...		29th ,, ,,	...	1	...	30	10	...	73	114	32·87	...	...
Naini Tal Dist	362,248	July ,,	1	6	...	728	67	23	29	854	2·36	602	1·66
Moradabad ,,	1,179,398	,, ,,	4	11	...	2259	223	43	277	2870	2·39	4128	3·50
Bareilley ,,	1,400,691	,, ,,	1	48	...	1583	100	72	82	1886	1·81	3449	3·31
Saharanpore ,,	1,001,280	,, ,,	...	1	...	1808	74	38	33	1954	1·75	2837	2·83
Meerut ,,	1,391,458	,, ,,	3	1	...	2336	12	58	32	2442	1·75	3926	2·82
Agra ,,	1,003,796	,, ,,	...	4	...	1109	127	64	384	1688	1·68	3365	3·35
Sitapur ,,	175,413	,, ,,	...	41	...	1184	11	90	124	1450	1·55	3274	3·04
Cawnpore ,,	1,209,695	,, ,,	2	...	...	1603	28	84	446	2163	1·79	3605	2·98
Allahabad ,,	1,548,737	,, ,,	1	11	...	1852	9	112	351	2336	1·51	4206	2·71
Fyzabad ,,	1,216,959	,, ,,	2	2	...	1285	29	90	376	1784	1·47	3843	3·16
Goruckpore ,,	2,994,057	,, ,,	8	22	...	1805	274	247	1405	3761	1·25	7923	2·65
Benares ,,	921,943	,, ,,	4	7	...	1248	38	56	366	1719	1·86	2067	2·24

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Medical News and Comments.

THE subject of our next illustration will be Rai Bahadur Dr. Kanaye Lall Day, G.M.C.B., C.I.E., of Calcutta.

FEARFUL CHOLERA MORTALITY AMONG PILGRIMS.—A Reuter telegram from Tunis, dated September 9th. says :—"During May last over 6,000 pilgrims left Tunis for Mecca and about 3,000 more sailed from the other ports on the coast. It is estimated that of these, 4,500 persons perished on their way to or from the Holy City. The steamers bringing those back who had made the *Haj* arrived here about ten days ago. The pilgrims were landed on the quarantine island of Zambia, in the Gulf of Tunis, and, after medical inspection and disinfection, were allowed to come on shore at Tunis. At about three o'clock in the afternoon of the day when they were expected, the different Tunisian sects with the friends and relations of the returning pilgrims in number about 12,000, marched down to the quays, carrying banners and singing hymns. At length the pilgrims landed, and it was then learned, for the first time, that scarcely 2,000 of all who had started from Tunis had come back. Heart-rending cries of wailing and lamentation arose from the vast throng of women of whom some were carried away fainting, while others threw themselves on their knees and supplicated the Prophet with frenzied fervour to restore to them the lost. The pilgrims themselves, as soon as they set foot ashore, and before they sought their relatives turned their faces towards Mecca, and prostrating themselves, offered thanks to Mahomed for their salvation. The pilgrims tell a terrible tale of their experience. On June 24th, two days before the *Courban Bairam*, upwards of 100,000 Mussulmans—Arabs, Turks, and Indians, had gathered on the Sacred Mount to hear the solemn address which is delivered to those who wish to become *Haj*. Many of these people were in the most wretched condition, and some had not even a loaf of bread. The following day the onward movement to the Holy City began. Those who got away were fortunate. The Mount was like a battle-field, strewn with dead and dying. Cholera had decimated the great concourse of pilgrims. So frightfully did the pestilence rage that it was impossible for any living creature to approach the place. At length a battalion of Turkish troops was sent from Soana to bury the dead and remove any people who still lived. The battalion, when it reached the Mount, was 700 strong. After the work had been done 200 men only remained to go back to the coast. Five hundred of the soldiers had died of cholera.'

THE NEW SETTLING TANKS AT PULTA.—The middle and east embankments of the new settling tanks at Pulta for a length of 1,960 feet have been raised up to crest level (41·00 feet over datum); dressing and turfing the side slopes of the middle embankment have been completed; three more village tanks were de-watered and filled up with earth in layers of one foot thick; the long water channel on the south side of the receiving well and west overflow chamber has been filled up with earth; the bed of loose stone aprons has beeen prepared The outer brim of No. 2 settling tank, which was at 33·00 feet over datum, has been cut down to 31·50 feet over datum, which is the low-water level of the tank. All the concreting of the head works has been completed. The receiving well has been raised to 29·00 feet over datum, and the floor of it has been paved with brick on edge set in No. 2 mortar; the inner small well has been completed. The aprons of overflow long chambers have been built up to 26·50 feet over datum, and only a brick-on-edge remains to finish them off to 27·00 feet over datum, the over-flow long chambers with carved wing walls at their end have been built up to 32·50 feet over datum, which is the mean crown level of the arches under the inverts of the chamber. A 48" inlet pipe to a length of 30 feet has been fixed inside the receiving well, and two 21" outlet pipes have been fixed inside the overflow chambers on both sides of the receiving well. The economiser has been fixed in position and brick walls of the chamber have been raised 12 feet above floor level. The flues have been arched over; two damper doors have been fixed in position. An extension of weather shed, 20 feet in length, with two cast-iron pillars and corrugated-iron roofing has been finished.

The Sanitary Commissioner, Mysore, has reported to the Mysore Government with reference to the Vaccine Institute of that State as follows :—"It is my opinion that the Institute should be made permanent. Vaccination with lanoline vaccine is the cheapest, easiest, and most efficacious of all methods of vaccination, as will be seen from the detailed report that will follow. From the figures in the statement enclosed, it will be observed that the Institute may in a certain sense be considered 'self-supporting,' as reported in my previous letter No. 912, dated the 3rd December 1892. In addition to supplying the province with as much vaccine paste of uniformly good quality as was required for the use of the vaccinators, the Institute has been supplying several parts of India and Burmah; an abstract report containing the opinions of such of the Medical Officers of these places as have been received is enclosed for the information of Government." . . . . . "Thus the actual cost per each case, including pay of establishment, is only 3·95 *pies*. The *percentage of success* obtained with lanoline vaccine was, as stated in my vaccination report for 1891-92, 10·18 per cent. higher than the average for the ten previous years, although the vaccinators were then inexperienced in the use of the paste. It is hoped that the results for 1892-93, when compiled, will give a still higher percentage."

THE *Bombay Gazette*, in discussing the future Viceroyalty of India, suggests the selection of Mr. Dadabhai Naoroji or Mr. W. S. Caine; the result of this would be that "the whole Congress party would be conciliated; there would be no more riots; no more deficits; no more fluctuations of exchange; no more opium; no more cakes and ale, for we should all grow virtuous!"

AN Ordinance has been introduced in the Legislative Council, Hongkong, called the "Morphine Ordinance," the object of which is to render illegal the practice of administering by injection or otherwise, preparations of morphine to ignorant Chinese coolies, who are now habitually resorting to places recently opened, where for a small charge, they receive injections of morphine, administered by unqualified persons who thereby derive pecuniary profit.

TASSINARI's advice to smoke strong tobacco as a specific for cholera was a precautionary measure strenuously advocated at the time of the Great Plague. The late Mr. Fairholt, in his "Tobacco," says the weed "was recommended, and generally taken, as a preventive of infection. The physicians and those who attended the sick took it very freely; those who

went round with the dead carts had their pipes continually lighted. It was popularly reported, and as generally believed that no tobacconists or their households were affected by the pestilence. This gave tobacco a new popularity. About that period was published "Nicotianæ Encomium; or, the Golden Leaf Tobacco Displayed in its Sovereignty and Singular Virtues." It was alleged that the weed was infallible in regard to grappling with an attack of plague.

Papain is the active principle of the papaw plant (*carica papaya*) of South America and the West Indies. A peculiarity of the papaw is that the juice from its leaves and stem will quickly make the toughest meat tender, and the leaves can also be used instead of soap in washing cloths. Papain is extracted by treating the leaves with alcohol, then dehydrating the precipitate, and "drawing" it with hot water. It is an albumenoid, and more especially the whiter kind has a digestive action on fibrin. According to Mr. F. Davis, B.Sc., its digestive action occurs in natural or feebly alkaline media, but is stopped by even a slight trace of hydrochloric acid.

THE latest antiseptic is *Lysol*, a liquid obtained by dissolving in fat and saponifying by alcohol the fraction of coal tar which boils between 190° and 200°. It is supposed to be as efficient as bichloride of mercury, and, like *Izal*, to be free from toxic properties.

Bacteria are likely to be blamed for all the ills that flesh is heir to. Professor Schenk now maintains that what we call a "cold" is really due to these invisible pests. When one enters a cold room after being heated, the bacteria in it flock to the warm body and enter by the open pores of the skin. Whatever may be said of his hypothesis, he seems to have proved by experiment that bacteria in the neighbourhood of a warm body move towards it. The confirmed smoker may derive some comfort from the fact that tobacco is inimical to them.

POISONED WITH PHENYLE—On Tuesday the 3rd Ootober two children (female) aged, respectively, four years and eleven months, were left in a room at Ballygunge. The younger child had been suffering from diarrhœa for some time, and her elder sister managed to get hold of a bottle of phenyle, and thinking it was a medicine, gave the infant a good dose. Almost immediately vomiting ensued, and a few minutes afterwards the child died, and the elder girl ran away shrieking to a neighbour's house.—The *post-mortem* exmination showed that death was due to a dose of phenyle.

There is an old story of some man who studied the subject of the adulteration of various popular articles of diet until he grew so impressed by the dangers attendent on food that he gradually gave up one thing after the other, eventually dying of want of nourishment. We may hope to avoid his fate, but still our indulgences are being daily restricted. We have to submit to boiled milk, which is no great hardship, and to boiled water, which is certainly nasty, and yet we know it to be wholesome, and so we dare not rebel. In their zeal against harmful things, some people would prohibit good as well as bad fruit, entirely forgetting that in food as well as drink, temperance means moderation, not necessarily "total abstinence." But the latest dictum that we must not clean our teeth with ordinary filtered water unless it is also boiled is surely converting common-sense precautions into the similitude of absurdities.—*The Hospital*..

The Secretary of State for War has decided that when an officer, belonging to a Corps in which promotion by time service is the rule, has been placed on half-pay for disability contracted in and by the service, he should, on restoration to full pay, reckon towards promotion his time' on half pay, not exceeding one year; but no officer should be promoted whilst remaining on the half-pay list. This decision will also apply to the Indian Medical Service.

The Committee on Hypnotism of the British Medical Association reported recently affirming the genuineness of the agency and prescribing restrictions. Its use should be forbidden to all but physicians, and these should not exercise it upon patients except in the presence of relatives. It is further declared useful in relieving pain and procuring sleep, but it is not certain whether it can be made a cure for drunkenness.

A REVISED project for water-supply works has been, sanctioned for the cantonment of Secunderabad. The works are estimated to cost Rs. 2,70,490. It was originally propsed to construct a reservoir on the Trimulgherry rocks at a cost of over three lakhs; but this project has been abandoned, and it has now been decided to construct a reservoir on the Gun Rock at a less cost.

CATTLE disease has made its appearance in a village below Mussoorie, and precautions have been taken to prevent its spread into the sanitarium.

THE Bombay Natural History Society has been requested to supply the Director General, Army Medical Department, War Office, London, with 40 grains of dry cobra poison for experimental purposes. This is rather a large order, but the Society has willingly offered to collect, if possible, the required amount, and despatch it to London.

The establishment of dairy farms in the Kashmir Valley is suggested. The supply of that romantic region, is said to be as bad as it can be, and it is surprising that dairy farming on a large scale has not been started by Europeans before now. The suggestion is a good one, and ought to be taken up by some enterprising Englishman.

General Officers Commanding Districts in the Madras Presidency have been requested to submit the names of Honorary Surgeons at present serving in Volunteer Corps, in view to these officers being gazetted under the titles prescribed by Clause 59, India Army Circulars of 1893. To ensure all such officers being correctly graded in the rank to which they are entitled under the order quoted, full details of their services have also been called for.

THE Madras Government has, on the recommendation of the Surgeon-General, ruled that, for the future, all Local Fund and Municipal Dispensaries in this presidency must procure their medicines from private sources, as they will not be supplied from the Government Medical Stores.

CALCUTTA CORPORATION.—As owing to the passing of the new Fire Brigade Bill, the Corporation will have to provide a sum of over Rs. 30,000 towards the maintenance of the Brigade, Mr. J. G. Ritchie, the Chairman of the Corporation, has proposed an increase of rates, amounting to one-half per cent. This would increase the rates to 20 per cent, on the annual valuation of the town.

PROMOTIONS.—Surgeon-Majors A. Willcocks, H. McKay and F. Swaine to be Surgeon-Lieutenant-Colonels; Surgeon-Captains L. Young, J. Gibbons, D. Grant, and D. Crawford to be Surgeon-Majors.

LEPER AND POOR ASYLUM IN THE NORTH-WESTERN PROVINCES.

No words can convey sufficient appreciation of the arrangements which provide for Leper, Poor and Blind Asylums in the twenty-seven districts in the North-West Provinces and Oudh, supporting 806 leper, 667 blind and 2,780 poor. The Dehra Leper Asylum has moved into the new quarters recently built for them—and very comfortable quarters they are. The Asylums in Agra, Almora and Benares are all in working order What is greatly needed, however, is a home for the houseless poor in every division of the United Provinces. These should be built and maintained by local contributions. In Madras the Rajah of Vencatagherry's Hospital for the poor and the Monegar Choultry for paupers are maintained by local contributions and the munificence of the Rajah and others. Some such undertakings should be pressed upon our nobility and gentry in the North-West Provinces and the Punjab.

ACCIDENT TO SURGEON-COLONEL GAYE.—The *Madras Mail* reports:—Our Principal Medical Officer, when riding at Poona, in the jumping competition, got a bad cut over his eye, and a shaking, owing to the horse he was riding refusing a water jump aud swerving, so that his rider's foot got caught in the rope.

IN the 45 large Municipal towns of the Punjab, during the week ending Saturday, the 12th August 1893, 931 births were registered (498 males and 433 females), giving a birth-rate of 34 per *mille* of population; 945 deaths were registered (457 males and 448 females), giving a death-rate of 33 per *mille* of population. The registered death-rate in the Municipal Town of Kasur, 139 per 1,000, was very high.

THE MILITARY APOTHECARY'S CLASS.—Of the five Scholarships thrown open for competition by the Madras Government in the Warrant Branch of the Subordinate Medical Department we are glad to say two have been secured by Cochin young men, Messrs. Harry Carlos, and Joseph D'Costa. The former Matriculated from St. Joseph's High School and the latter from the Santa Cruz College. They have joined the Medical College, Madras, where we wish them every success. Cochin young men have always distinguished themselves in the Medical College and we hope their career will be equally creditable.

THE SCOTCHMEN OF NEW SOUTH WALES are erecting a monument to Burns. Sir Henry Parkes wrote to the committee that Burns belongs 'to all lands and all times where the English language expresses thought and feeling.'

IT is reported that leprosy is slowly, but steadily, increasing in Spain, especially in Tarragona, Valencia, Almeria, Alicante and Cadiz. It would appear that the Moorish type of the disease has been perpetuated in the populations of some of the Mediterranean provinces.

IT is belived to be a certainty that the Government of India will be called upon to undertake fresh legislation in order to guard against evasions of the Cantonment regulations in connection with the C. D. question.

THE HOLY WELL AT MECCA.—Mr. E. Frankland, writing to the London *Times* on the condition of the water of the holy (cholera) well of Zem-Zem, used by the Mahomedan pilgrims at Mecca, says: A sample of the water came to me through the India Office. It was full of dead microbes and contained in an equal volume considerably more animal matter than is found in average London sewage. In addition it afforded evidence of previous pollution with an amount of such matter at least six times as great as that contained in the equal volume of average London sewage. The water has been again quite recently analysed by Colonel Bonkowski Bey, consulting chemist to his Majesty the Sultan of Turkey. His results confirm my own analysis. They show that the water is still abominably polluted by excrementitious matters. The surroundings of this well are such as would be likely to impart to the water these dangerous ingredients. Mecca appears to have no sewerage system; all foul matters being buried in the earth within or near the city. Hence the foulness of the water percolating into the well through this mass of corruption. Colonel Bonkowski Bey informs me that Mecca is supplied with water of excellent quality; but, of course, the pilgrims are bound to drink at the holy well. Tens of thousands of pilgrims continue to die of cholera at Mecca, and to spread the disease elsewhere; but, so far as I know, no measures have been taken to prevent pollution, and Mecca continues to be a cholera centre.

THE annual return showing the moratality from wild animals and snakes in 1892 is published. The loss of life from the former is 2,963 as against 2,861 in 1891, Bengal accounting for 1,664 deaths, the Central Provinces 317, Madras 316, North-West Provinces 293, Assam 209, and Bombay only 48. The death from snakes are 19,025 as against 21,389 in 1891. The provincial figures are—Bengal 9,120, North-West Provinces and Oudh 4,566, Madras 1,465, Bombay 1,038, Central Provinces 999, Punjab 871, Burmah 543, and Assam 208. Some 81,000 head of cattle are reported as having been killed as against 70,000 in 1891, but these figures are of little value. About 85,000 snakes were destroyed, and Rs. 9,700 was given as rewards, both figures being almost the same as those of the previous year.

A WELL-INFORMED London correspondent writes to a local daily:—"Now is the time for the people in India to agitate the question of Home Charges and India Office expenditure. The Indian Currency problem has opened the eyes of a large number of influential persons to the absolute necessity of effecting as many economies as possible in the Home Charges. The extravagant scale of the India Office establishment and the unfair burdens often laid upon the Indian Government by the authorities at home are matters against which both Anglo-Indians and Indians can join in protesting."

WE regret to hear of the death, on 8th October last, of Dr. Ardeshir Dadabbai the only son of Mr. Dadabhai Naoroji, M.P. The deceased was medical officer at Katch Mandir, as medical officer in the employ of the Rao of Katch. He leaves a widow and seven children.

WE regret to hear of the death, at Bonn, of Miss Merrill, daughter of General S. Merrill, formerly Consul-General for the United States in Calcutta.

SURGEON-MAJOR-GENERAL W. F. DE FABECK, of the Indian Medical Service, on a recent visit to the Royapetta Hospital made the following suggestion in the Vistors' book of that hospital:—"It would be well if some of the Municipal Commissioners attended as visitors from time to time. The President is frequently a visitor, and it might be arranged that a Commissioner be asked each week to consider himself a visitor for the week. Of course this need not interfere with others or himself visiting this important institution at any time they or he may wish to do so." The suggestion has been sent round to the Commissioners for their information, and will be considered at the next General Meeting of the Commissioners.

During the year 1892-93 little short of 5,000 maunds of *charas*, one of the products of the Indian hemp plant which is now receiving attention from Mr. Mackworth Young's Commission, were imported into the Punjab from Yarkand, which seems to be the only source of supply. Of this quantity 3,765 maunds came through the Kangra district, most of it passing into the Sikh districts of Amritsar, Ludhiana, Hosiarpur, and Umballa, and about 1,000 maunds through Rawalpindi. Only one-fifth of this supply, however, seems to be required for local consumption the remainder being passed through to the North-Western Provinces and various native States. The trade in *charas* is evidently increasing considerably for we find that two years ago the imports were less than half of the imports of last year, and with this increase the retail price of the article is falling; but, notwithstanding its cheapness, the quality of the *charas* shows no sign of deteriorating. All this *charas* comes into the Punjab free of duty, there being legal difficulties in the way of imposing a tax on the drug under Act XXII, of 1881, but an amending bill is now before the Legislative Council which will remove such difficulties. It is a drug well able to bear a pretty heavy duty. The average retail price per seer in the Punjab is Rs. 6, and there is no reason why it should be less in the North-Western Provinces and Native States into which most of the imports into the Punjab eventually find their way. Five thousand maunds at this rate means a sum of twelve lakhs. As it is, the revenue from licenses for the retail vend of *charas* and *bhang* (both being combined in one license with opium) amounted in 1892-93 to Rs. 1,70.854 but it is impossible to say how much of this is realized from the sale of *charas*, the consumption of this drug and *bhang* being in the porportion of one maund to four.

According to a Resolution of the Bombay Government, issued on Wednesday September 28th, the epidemic of cholera during the past year in the Bombay Presidency was the most serious since 1878, nearly forty-three thousand deaths being attributed to this cause as against not quite eighteen hundredin the previous year. In the Dharwar district alone, cholera was responsible for more than eight thousand deaths. Belgaum, Kurrachee and Hyderabad (Sind) each totalled considerably over five thousand, while Poona, Ahmednugger and Satara each recorded about two thousand five hundred deaths from this cause. Bombay city, Ratnagiri and Broach however, were hardly affected by the epidemic. Fevers, as usual, head the mortality tables so far as numbers are concerned, being responsible for 433,038 out of the total of 613,742 deaths in the Presidency. Dysentery and diarrhœa give a total of 35,406 deaths, injuries a total of 5,432, and small-pox a total of 2,770. The death-rate per thousand of the population was brought up by the high mortality from fever and cholera from 27·26 to 32·50, with a birth rate of 34·57 per mille.

India in Parliament.—On Friday, September 8th, Mr. Hopwood asked the Under-Secretary of State for India: Whether he has received an answer to enable him to say by what authority Dr. Haffkine has been permitted to inoculate soldiers at Agra with cholera virus as an experimental precaution against cholera? By what authority was he allowed to inoculate 250 school children in the elementary schools, and were the children voluntary subjects of the experiment? And if he has not yet received the answer, will he require the authorities to send the information at an early date?

Mr. G. Russell:—The reply to the Secretary of State's despatch asking for information on this subject has not yet been received. The Government of India has been asked by telegraph to expedite their report.

There is some talk of the Government of Travancore doing away with its cardamom monopoly, and substituting a less primeval method of collecting revenues.

The criminal statistics supplied by the Solicitor-General of Ceylon are meeting with a searching criticism in the local press and the general system of dealing with the criminal classes in the island has come under investigation. So far the official reports do not appear to have given much satisfaction, and the demands for reform are very urgently prosecuted. It is a common thing, it appears, for serious charges, such as cattle stealing, to be made, and then abandoned; that is to say the charges are either false, or compounded, so that in either instance there is great laxity.

In Burmah the Government vaccinators have to contend with a serious obstacle in the shape of the Burmese inoculator. Despite the fact that inoculation is pretty regularly followed by a mild epidemic of small-pox, the Burman has more faith in it than he has in vaccination. In one district where the vaccinator had been the Civil Surgeon of Bassein, the elders were called together and had the beneficial effects of vaccination carefully explained to them. They listened most attentively, and much to the Civil Surgeon's gratification, acquiesced in all he said, in a manner both graceful and convincing. In the meantime they had all the children sent away from the village *en masse*! The mere sight of the vaccinator in three or four other villages was the singal for a stampede, none but the old men and women being left.

The Bangalore Literary Union has been discussing, at an influential meeting, the draft regulations recently issued by the Mysore Durbar, prohibiting infant marriages in Mysore territory. Further consideration of the subject was adjourned after several members had expressed their opinion thereon.

The model of an apparatus for reducing the vibration of railway carriages, thus enabling invalids to endure long railway journeys in India with a minimum of discomfort, has lately, been discussed at the Simla conference. Surgeon-Lieutenant Colonel Temple-Wright, I.M.S., the inventor of the Milver ambulance for field service, demonstrated the model, which is also of his contrivance. The inventor suspends his patient's bed on four spiral springs in brass cylinders, like garden syringes. They surround pistons, the lower ends of which are provided with chains to fasten round the bedposts. The oscillation of the train is thus reduced so much that patients can read while so suspended, without any fatigue to the eye. Dr. Wright is about to retire from the service, and he proposes to present his models and designs to the Director-General of Railways, so that any railway may apply the apparatus to their carriages. The offer has been accepted.

Systematic Theft of Milk for Hospital Patients.—At the Alipur Police Court, on the 3rd October last, an Oorya in the service of the contractor to the Medical College Hospital, was brought up under arrest, and charged with systematically stealing a portion of the milk entrusted to him for the patients of the above-named hospital, and adulterating the rest of the milk with water to make up the required quantity.

Surgeon-Major Robertson, who has been officiating as British Agent at Gilgit since Colonel Durand's departure, is now in Simla discussing the arrangements to be made for carrying on the work of the Agency during the cold weather. He himself is about to take seven or eight months' leave to England returning in the early summer, when the 'passes' are open.

The Bombay Privincial Conference for 1893 will be held at Ahmedabad on the 1st, 2nd, and 3rd of November. Amongst the subjects for discussion are the Bombay Medical Service, and the Constitution of the Grant Medical College.

THE Indian Hemp Drugs Commission have arrived at Simla after completing their preliminary tour. They have either in a body or by deputation visited all the Provinces of India and most of the Native States, and have definitely settled their programme and the lines on which their inquiry is to be conducted. Their formal sittings for oral evidence will begin this month in the Central Provinces. It is understood that they will not hold formal sittings in Native States, and that the order in which the Provinces are to be taken will probably be the Central Provinces, North-West Provinces, Bombay, Madras, Bengal (with Burmah and Assam), and the Punjab.

Surg.-Major J. L. VanGeyal, F.C.S., F.C.I., having brought to the notice of Government that many irregularties exist in the practice of officers—medical, police, and magisterial—who forward articles for chemico-legal examinations, especially articles in which suspected stains are to be examined, the Government has directed the reprint of G. O., dated 30th May, 1883, No. 1062, embodying the rules relating to chemico-legal examinations, and its communication through the Judicial Department and Surgeon-General to the officers concerned for very careful attention, that, in future, individual cases in which the rules have not been observed be at once reported by the Chemical Examiner for the orders of Government.

COMMENTING on the recognition of Surgeon-Major Parke's services by the military authorities, the *Lancet* reflects with pleasure on the fact that members of their own profession and others capable of gauging his merits vied with each other to do him honour and urges that a memorial should be raised to his memory. It is suggested that a Parke prize or medal in the Dublin School of medicine and at Netley would serve to keep alive the memory of one who had artributes which welded his private friendships into durable bonds, and whose career is calculated to encourage all who like Henry Lawrence, Charles George Gordon, and himself, "try to do their duty" under difficult circumstances.

In 1891-92, nine hundred and ninety-eight thousand persons were vaccinated in Bombay at a cost of three lakhs and nine thousand rupees; in 1892-93 nine hundred and eighty-seven thousand at the cost of three lakhs and twenty thousand rupees. The prevalence of fever and cholera, and scarcity, is the best justification of these figures. On examination of the figures of the last ten years, the Government regrets that little real progress has been made in revaccination, and expresses a hope that no efforts will be spared by the sanitary officers to show a marked improvement in future years.

A SOMEWHAT serious outbreak of cholera is reported to have taken place at Hooghly in the middle of last month. The sanitation of the town is said to be in a sadly neglected condition. Upwards of twenty cases of the disease are stated to have occurred within a few days.

BRIGADE SURGEON S. COULL MACKENZIE.—The death is announced, on October 1st, at Darjeeling, of Brigade Surgeon S. Coull Mackenzie, who had been Police Surgeon of Calcutta since 1878, and in later years also held the appointments of Professor of Medical Jurisprudence in the local Medical College, and Superintendent of the Campbell Medical School and Hospital at Sealdah. Dr. Mackenzie joined the Indian Medical Service from the Edinburgh University in March 1866, and obtained Brigade rank in 1886. Most of his service was spent in and around Calcutta. He was held in high esteem by his successive superior officers and by the members of his service, and was very popular among a wide circle of both European and native society, by all of whom his death will be deeply regretted. Dr. Mackenzie was incapacitated from work about 2 months ago by a complication of ailments, and went up to Darjeeling for the benefit of his health. The heavy rains there aggravated his illness, and he died somewhat suddenly. He was to have retired from the medical service shortly. His funeral was an imposing spectacle. The coffin was covered with flowers, carried on a gun carriage, and escorted by every soldier at the depot as well as by a host of his personal friends, of whom this good man could boast a large number. One of the ladies of his family also followed the sad cortege to the very end. The Rifles paid the last tribute of respect to their departed friend by firing three volleys over his last resting place.

THE principal Medical Officer, Her Majesty's Forces in Madras having considered it absolutely necessary, on sanitary grounds, that the water supplied to the European troops stationed in Fort St. George from the Seven-wells water works should be boiled before being used by the troops, the Madras Government has approved of the suggestion and has accordingly sanctioned the necessary expenditure.

PUBLIC opinion in Germany appears to be not a little excited over the subject of cremation. The higher law courts have been called upon to decide whether a municipality may be legally forbidden to adopt cremation; and in some quarters the mere suspiction that, in the event of a negative, introduction of cremation may follow has led to an outbrust of indignant protest. The papers denounce cremation as a crime against immemorial custon.

THE importance of the opium trade to Bombay may be understood, when it is mentioned. that the average shipments of Malwa opium from that port to China amount to 25,000 chests per annum, the freight of which average Rs. 100 per ton.

IT is said a female codfish will lay 45,000,000 eggs during a single season. Piscatorial authorities say that, were it not for the work of the natural enemies of fish, they would fill all the available space in the seas, rivers, and oceans.

BRIGADE-SURGEON E. A. BIRCH has obtained an extension of leave for two months.

The members of the Opium Commission receive no remuneration, beyond travelling expenses.

The *Panjab Patriot* says that cases of poisoning have become very frequent in the Gujrat District.

THE SANITAS COMPANY have issued a very well written pamphlet entitled—"A REPORT ON CERTAIN EXPERIMENTS UNDERTAKEN TO ASCERTAIN THE DISINFECTING AND GERMICIAL PROPERTIES OF 'SANITAS' PREPARATIONS AND APPLIANCES" by Dr. A. B. Griffiths. It is written in very plain and simple language, and is free from the ordinary technicalities. The experiments which go to prove the disinfecting and germicidal properties of 'Sanitas' are so clearly explained as to be readily understood by the ordinary reader, while the proofs of what are presented of the properties of 'Sanitas' are conclusive. The bacilli experimented with were those of tubercle, scarlet fever, typhoid, asiatic cholera, glanders and diptheria, and in all cases 'Sanitas' oil emulsion and fluid rendered them inert and incapable of reproduction. When added to tube cultures, of the various pathogenic germs, they were speedily rendered sterile even with much diluted specimens of the disinfectant. Other experiments also show that the vapour of 'Sanitas' is capable of destroying active germ life in the atmosphere. The toxic principle of ptomanies is rendered inert by relatively minute quantities of 'Sanitas' oil and fluid. A careful perusal of this little pamphlet would be amply repaid.

PORT MEDICAL INSPECTOR.—Mr. F. K. Butt, M.R.C.S., L.R.C.P., has been appointed Medical Inspector of Seamen in the port of Calcutta.

JAVA planters, it appears, are trying to restrict the amount of cinchona bark offered, by reducing the export, hoping thereby to corner the market.

SURGEON-MAJOR J. E. FERGUSON, Bombay Medical Service, and Medical Officer 14th Bombay Infantry, has permission to retire from the Service.

Correspondence.

THE ADDITIONAL PROFESSORSHIP OF CLINICAL MEDICINE IN THE GRANT MEDICAL COLLEGE.

TO THE EDITOR OF THE "MEDICAL REPORTER."

SIR.—Your article referring to the additional Chair of Clinical Medicine in the Grant Medical College, Bombay, is *apropos* of the times, for as you so clearly and temperately show, the day has long passed when it was necessary to fill such appointments with "Service Professors." If you will permit me I will make a few comments on your article, which I think, for the tone and spirit that pervades it, should be brought prominently to the notice of the Profession in India, especially to that of non-service men.

Now could there be a case more illustrative of the attitude of the Government of Bombay as advised by its chief Medical Officer than that of Dr. Bhadurji? He is a man fully qualified for the work he has had to perform, and though the chair was liberally endowed he yet offers to continue the work without remuneration. His reason for doing so is transparent, for with commendable public spirit he wishes to hold the professorship free, so as to keep it open in future for unofficial medical men. Dr. Bhadurji for this attempted service certainly deserves the gratitude of the unofficial medical men of India, and you Sir, deserve their thanks for having taken up the matter on this side of India.

You show tersely and clearly that the Surgeon-General nullifies his own ruling, for while he states that the Professorship should be held by a man well skilled in research work, a selected graduate, he ousts Dr. Bhadurji from the Chair—a man who answers his own description of the special qualifications requisite; being an M. D., of the London University, and with a special training in Clinical Medicine and Pharmacology both in England and Germany. Well may you state, "the recommendations advanced by the Surgeon-General are absurd in the extreme, and cannot bear even ordinary examination" "We ask in all seriousness what does all this look like?" It looks like the perpetration of an unrighteous "job".

Yours etc.,

VERITAS.

BURIAL *VERSUS* CREMATION.

TO THE EDITOR OF THE "MEDICAL REPORTER."

SIR,—Will you kindly insert the following letter in your next issue, as the necessity of taking up this question will sooner or later arise, owing to the want of space in the cemeteries that are located in Calcutta. One should be acquainted with geology in order to plan places of burial in such soils that are best adapted to the speedy decomposition of the bodies interred, and to guard against the products of decomposition injuring the living. The soil of a cemetery should be dry, close, and at the same time porous. The rain falling on the surface will thus permeate to the corpses, and hasten their decomposition. The subsoil should be of such a nature as not to need any under-draining, and not allow water to collect in the graves. If the cemetery consists of clay soil it must be drained thoroughly by means of deep cross drains, and drain pipes. Gravel in abundance should also be strewn at the bottom of each grave, and every fresh grave opened out should have its gravel layers connected with the gravel layers of the others. In filling up a grave in a clay soil, it would be advisable, instead of replacing the clay, to put gravel or sand in its place. It very often happens that after all the trouble and expense of making a cemetery situated on a dry soil, in a good sanitary condition, serious disappointment is liable to follow; for the gases of decomposition are liable to be retained in the soil for several years. Again in the rains and in the hot weather months the soil will crack here and there and let out the gases. It therefore follows that a cemetery having the soil dry and porous will be the best for burial purposes. I do not wish to enter into the different methods of disposing of the dead, as each method has its advocates. I have simply pointed out what soils are best in choosing sites for cemeteries. Do the cemeteries of Calcutta fulfil any of the above necessary conditions? Let any sanitarian reply honestly. I would here remark that burial even in the best soils—soils which rapidly assist decomposition—is fraught with great peril to the living. The decomposition of corpses gives rise to a large amount of carbonic acid. Ammonia and offensive putrid vapours are also given off. Such gases, carried by the winds to surrounding places, will lower the health of all who breathe them. It has been seen that the people living in *bustees* situated near the Calcutta cemeteries suffer dreadfully from lung and fever complications.

The above has been written to illustrate the *evils of burial* notwithstanding the nature of the soil. No soil will secure the living from risk. I would therefore strongly advise the abolition of burial altogether, and the disposal of the dead speedily by cremation, or burning to ashes in a suitable furnace. This is the only rational and safe method which in the near future must be adopted by all people.

In the meantime the members of the "Burial Board" should re-consider this question and adopt the following:—

1. Until cremation becomes general, all corpses should be buried in destructible coffins.
2. The soil should be dry and porous.
3. The use more freely of gravel and sand.
4. The drainage should be attended to.
5. To make arrangements for the free access of air and water, so as to decompose the corpses as speedily as possible.
6. The cemeteries should not be in charge of a clerk, but a christian Assistant-Surgeon or an Apothecary.

Yours etc.,

SANITARIAN.

Government Medical Notifications.

GAZETTE OF INDIA.

No. 586.—The services of Surgeon-Captain W. J. Buchanan, M.B., B.Ch., I.M.S. (Bengal), are replaced at the disposal of the Military Department, with effect from the date on which he made over charge of his duties as officiating Civil Surgeon of Midnapore.

No. 890.—The following extract, being paragraphs 1 and 2 of a Military letter from the Secretary of State for India, No. 100 dated the 24th August 1893, is published for general information:

The undermentioned probationers for the Indian Medical Service having completed a course of instruction at the Army Medical School, and being reported qualified, have been appointed Surgeon-Lieutenants on the Bengal estatablishment:

Cecil Robert Stevens. Cecil Charles Stuart Barry. Leonard Rogers. Ernest Alan Robert Newman. Gordon Travers Birdwood. Jay Gould. Reginald George Turner. James Davidson. John Mulvany.

2. Their commissions will bear date 29th July 1893, the day of their passing out of the Army Medical School, from which date their service for pension will also reckon.

No. 627.—Consequent on the extension of leave for two months granted to Brigade-Surgeon-Lieuteuant-Colonel E. A. Birch, M.D., with effect from the 29th July 1893, the undermentioned officers are appointed sub. *pro tem.* in their respective appointments, with effect from that date:

Surgeon-Major G. Bomford, M. D. Officiating Principal, Medical College, Calcutta.

Surgeon-Captain J. T. W. Leslie, M. B., Officiating Secretary to the Surgeon-General and Sanitary Commissioner with the Government of India.

Surgeon-Majors who have completed twelve years' full pay service to be Surgeon-Lieutenant-Colonels.

Dated 30th September 1893.

Alexander John Willcocks, M. D.

Henry Kellock McKay.

Frederick Robert Swaine, M. B.

Surgeon-Captains who have completed twelve years' full service to be Surgeon-Major.

Dated 1st October 1893.

Louis Tarleton Young, M. D.

James Barry Gibbons.

Donald St. John Dundas Grant, M. B.

Dirom Grey Crawford, M. B.

No. 957.—First Grade Senior Apothecary George Nesbitt, subordinate medical department, is permitted to retire from the service, with effect from the 26th August 1893, subject to Her Majesty's approval.

No. 22.—Third grade Hospital Assistant, No. 654, Sandhe Khan, is granted 85 days' privilege leave, with effect from the date on which he avails himself of the same.

No. 1193.—390—Babu Rash Bihari Maitra, Assistant Surgeon, Beawar, is granted privilege leave for two months and sixteen days, with effect from the afternoon of the 23rd September 1893.

No. 4377-*P.*—The services of Surgeon-Captain J. L. T. Jones (Bombay Establishment), Probationer in the Assay Department, Calcutta Mint, are replaced at the disposal of the Government of Bombay with effect from the 4th October 1893.

No. 966.—The undermentioned officers are granted leave to proceed out of India on private affairs under the leave rules for the Staff Corps; the specified period to count from the date of being struck off duty:

Surgeon-Captain J. Garvie, 2nd Punjab Cavalry, for one year. Pension service—7th year commenced 4th July 1893.

No. 967 The undermentioned warrant officers are granted leave to proceed out of India on medical certificate under article 920-F, Army Regulations, India, vol. I, part I; the leave to have effect in India from the date of being struck off duty till the date of sailing; the specified period to count from the date of leaving India:—

First grade Assistant Apothecary W. Forrester, (m. c.) for one year.

First grade Assistant Apothecary C. H. Orman, (m. c.) for one year.

The Queen has approved of the following promotions among the officers of the Staff Corps and Indian Medical Services made by the Governments in India:

* * * * * *

To be Brigade-Surgeon-Lieutenant Colonel.

Surgeon-Lieutenant-Colonel George Hutcheson, M.D. Dated 27th June 1893.

No. 4075-G.—Surgeon-Captain C. M. Moore, M.D., I.M.S. (Bombay), Officiating Medical Officer of the Deoli Irregular Force and of the Harowtee and Tonk Agency, is granted 60 days' privilege leave from the 22nd August, 1893.

N.-W. P. GAZETTE.

Surgeon-Major J. Moran, Givil Surgeon, Gorakhapur, privilege leave for one month, with effect from the 12th September 1893.

Assistant Surgeon Iktidar-uddin, attached to the Sadar Dispensary, Hardoi, to hold charge of the Civil medical duties of the Hardoi district, in addition to his other duties, with effect from the 6th September 1893, as a temporary measure.

Assistant Surgeon Jaggeshwar Rae, in charge of the Gorakhpur Sadar Dispensary, to hold charge of the civil medical duties of the Gorakhpur district, in addition to his own duties, during the absence on leave of Surgeon-Major J. Moran, or until further orders.

ERRATUM In Notification No. 11—2515—653B, dated 29th August 1893, *for* "Assistant Surgeon Gopal Chandra Gupta" *read* "Assistant Surgeon Abinash Chandra Gupta.

Assistant Surgeon Salig Ram Misra from the sadar Dispensary at Hamírpur to that at Jhánsi.

Assistant Surgeon Rajendra Nath Chaudhri from the sadar Dispensary at Jhánsi to that at Hamírpur.

No. 557,—With effect from the date of assuming charge, Surgeon-Colonel J. G. Pilcher is appointed to officiate as Inspector-General of Civil Hospitals, North-Western Provinces and Oudh, during the absence on furlough of Surgeon-Colonel J. Richardson, or until further orders.

Dr. F. W. Higginson, Superintendent, Central Prison, Benares, privilege leave for one month, with effect from the 15th September 1893.

Surgeon-Captain J. Morwood, Civil Surgeon, Sultánpur, to officiate as Superintendent, Central Prison, Benares, During the absence on leave of Dr. F. W. Higginson, or until further orders.

Mr. Senior Apothecary S. P. Bond, in civil medical charge of Partábgarh, to the charge of the civil medical duties of the Sultánpur district, and to hold visiting medical charge of Partábgarh in addition, during the absence on deputation of Surgeon-Captain J. Morwood, or until further orders.

Surgeon-Lieutenant-Colonel J. McConaghey, Civil Surgeon, Allahabad, to hold visiting medical charge of the Fetehpur district, in addition to his other duties, during the absence, on deputation to the Jail Department, of Mr. Apothecary C. Atkins or until further orders.

Assistant Surgeon Rati Kanta Ghose, furlough for one year in extension of that granted him by Notification No. 80—11—687B, dated 10th January 1893.

Surgeon-Lieutenant-Colonel R. T. Wright, Civil Surgeon, Shahjahánpur, to hold visiting medical charge of the Hardoi district in addition to his other duties, pending the arrival of a Civil Surgeon at that station.

The Queen has approved of the following promotions among the officers of the Staff Corps and Indian Medical Service, and admissions to the Staff Corps, made by the Governments in India:—

* * * * * *

BENGAL MEDICAL ESTABLISHMENT.

To be Brigade-Surgeon-Lieutenant-Colonel.

Surgeon-Lieutenant-Colonel George Gilbert MacLaren, M. D. Dated 1st May 1893.

* * * * * *

The rank on retirement of Brigade-Surgeon-Lieutenant-Colonel George Gilbert MacLaren, M. D., Bengal medical Establishment, is as now described, and not as stated in the *London Gazette* of 1st August 1893.

ERRATUM—In line 8 of Notification No. v—432—159B, dated 27th September 1893, on page 741 of Gazette of 30th idem, *for* "attentiom" *read* "affection."

Assistant Surgeon Jaggeshwar Rae, in charge of the Dispensary, Gorakhpur, privilege leave for three months with effect from the 4th November 1893.

Surgeon-Captain D. W. Scotland, Officiating Superintendent, Central Prison, Farukhabad, on being relieved by Surgeon-Captain R. R. Weir, to officiate as Civil Surgeon, Mainpuri.

Assistant Surgeon Shankar Das, on reserve duty at Lucknow, to the charge of the Sadar Dispensary at Gorakhpur during the absence on leave of Assistant Surgeon Jaggeshwar Rae, or until further orders.

Surgeon-Major Fakir Chandra Chatterjee, Civil Surgeon, Basti, to hold visiting medical charge of the Gorakhpur district in addition to his other duties, with effect from the 1st October 1893 and till further orders.

Assistant Surgeon Bihari Krishna Basu, in charge of the Sadar Dispensary, Partábgarh, to hold charge of the civil medical duties of the Partábgarh district, in addition to his other duties, with effect from the 26th September 1893 and until further orders.

C. P. GAZETTE.

No. 6815.—Sepecial leave on urgent private affairs for three weeks, under Article 348 of the Civil Service Regulations, is granted to Surgeon-Captain W. L. Price, Civil Surgeon Chhindwara, with effect from the 3rd October 1893, or the subsequent date on which he may avail himself of it.

No. 6900.—Examination leave for ten days, under Article 314 (*a*) of the Civil Service Regulations, is granted to Surgeon-Captain R. C. Macwatt, Superintendent of the Jail and Officiating Civil Surgeon, Raipur, with effect from the 25th proximo, or the subsequent date on which he may avail himself of it.

No. 6901.—Surgeon-Major H. P. Jervis, 7th Bombay Infantry, Raipur, is appointed to officiate as Civil Surgeon, Raipur, in addition to his own duties, during the absence of Surgeon-Captain R. C. Macwatt on leave, or until further orders.

No. 7126.—Assistant Surgeon Lakhmi Narain Choudri, Sanitary Inspector, Nagpur Division, is appointed to officiate as Civil Surgeon, Chhindwara, during the absence on leave of Surgeon-Captain W. L. Price, or until further orders.

No. 7127.—Under Section 8 of Act XXVI of 1870 (the Prisons Act), the Officiating Chief Commissioner is pleased to appoint Assistant Surgeon Lakhmi Narain Choudri Officiating Civil Surgeon of Chhindwara, to the medical charge of the Chhindwara Jail.

No. 85.—Second Class Civil Hospital Assistant Jagir Pershad, doing duty under the orders of the Civil Surgeon, Sambalpur, is directed to do duty under the orders of the Civil Surgeon, Jubbulpore.

No. 86.—Third Class Civil Hospital Assistant Balaji Baliram was directed to do duty under the orders of the Civil Surgeon, Hoshangabad, with effect from the forenoon of the 7th to the afternoon of the 11th August 1893.

No. 87.—Third Class Civil Hospital Assistant Madhu Sudan Das, doing duty under the orders of the Civil Surgeon, Nagpur, is temporarily posted to the Main Dispensary, Raipur, *vice* Civil Hospital Assistant Ram Lal Das Gupta whose resignation has been accepted by the Officiating Chief Commissioner, Central Provinces.

ASSAM GAZETTE.

No. 149.—Third-grade Hospital Assistant Aditya Mohan Das Gupta, a Supernumerary at Gauhati, is appointed to the medical charge of a gang of coolies proceeding from Shillong to the North Lushai Hills for work on the Rengti Road under the Public Works Department.

No. 150.—Third-grade Hospital Assistant Brindaban Chandra Datta, held medical charge of the Tamlu Frontier Police Guard from 22nd to 26th July 1892, both days inclusive.

No. 151.—Babu Parbuti Nath Datta, a passed student of the Dacca School of Medicine, is appointed temporarily, for six months only, as a Civil Hospital Assistant in Assam, and is posted to Gauhati as a Supernumery, with effect from the date he reports himself for duty to the Civil Surgeon there.

No. 152.—Third-grade Hospital Assistant Kali Mohan Sen (2nd), on relief of his duties as Hospital Assistant in charge of the Mokokchang Dispensary, was on supernumerary duty at Mokokchang from the 27th April to 11th May 1893, both days inclusive.

No. 153.—Sick leave for six months, under article 893 of the Civil Service Regulations, is granted to First-grade Hospital Assistant Moti Ram Das' in medical charge of the Jowai subdivision, in the Khasi and Jaintia Hills district, with effect from the date he avails himself of the same.

No. 154.—Third-grade Hospital Assistant Sita Nath Ray, in temporary subordinate medical charge of the Silchar Dispensary, is, on relief, transferred to the Khasi and Jaintia Hills, and appointed to the medical charge of the Jowai subdivision in that district, during the absence on sick leave of First-grade Hospital Assistant Moti Ram Das, or until further orders.

No. 155.—Third-grade Hospital Assistant Nobin Chandra Das, a Supernumerary at Silchar, is appointed temporarily to the medical charge of the Shella Dispensary in the Khasi and Jaintia Hills district, during the absence on privilege leave of Third-grade Hospital Assistant Raj Mohan Ganguli or until further orders.

No. 156.—The probationary period of Third-grade Hospital Assistant Jamini Kanta Dhupi is extended for another six months with effect from the 21st September 1893.

No. 157.—Privilege leave of absence for three months, under article 291 of the Civil Service Regulations is granted to Third-grade Hospital Assistant Kailash Chandra Das (2nd) in medical charge of the Sipaghar Dispensary in the Darrang district, with effect from the date he is relieved of his duties.

No. 158.—Third-grade Hospital Assistant Giris Chandra Das, in temporary medical charge of the Golaghat Subdivisional Dispensary in the Sibsagar district, is, on relief, transferred to the Darrang district, and appointed to the medical charge of the Sipaghar Dispensary in that district, with effect from the date of taking over charge from Third-grade Hospital Assistant Kailash Chandra Das (2nd).

No. 159.—Second-grade Hospital Assistant Rajani Kanta Gupta, in temporary medical charge of the Bogribari Dispensary in the Goalpara district, is, on relief, transferred to the Sibsagar district, and appointed to the medical charge of the Golaghat Subdivisional Dispensary, with the Lock-up in addition to his other duties, with effect from the date of taking over charge from Third-grade Hospital Assistant Grish Chandra Das.

No. 160.—Babu Nisi Kanta Bhattacharjya is confirmed as Third-grade Civil Hospital Assistant in Assam, with effect from the 8th October 1893, *vide* Medical Department Notification No. 39, dated the 28th March 1893, published in the *Assam Gazette* of the 1st April 1893.

No. 161.—The undermentioned Hospital Assistant has passed the English Qualification Examination according to the test laid down in G. G. O. No. 945, dated the 11th October 1868.

Rank and Name	Date of Rank	Date of passing the English Qualification Examination.
Third-grade Hospital Asstt. Gobinda Chandra Das.	24th Feb. 1889.	3rd Oct. 1893.

BURMA GAZETTE.

No. 446.—Second Grade Hospital Assistant, No. 46, Jogashur Lal, on transfer to the Yamethin district, relinquished charge at the Civil Dispensary and Lock-up Tharrawaddy on the afternoon of the 14th September 1893.

No. 447.—Third Grade Military Hospital Assistant A. Arunachella Naicker made over, and Third Grade Military Hospital Assistant M. J. Sivaraju Pillay assumed, charge at the Civil Dispensary, Loikaw, Chin Hills, on the afternoon of the 19th July 1893.

No. 448.—With reference to Notification No. 376, dated the 10th August 1893, Third Grade Hospital Assistant, No. 125, Ali Ahmed assumed charge at the police Hospital, Myitkyina, on the forenoon of the 2nd September 1893.

No. 449.—Third Grade Hospital Assistant, No. 1210, M. Rammuni, on transfer to Myingyan, relinquished charge at the Police Hospital, Katha, on the afternoon of the 8th September 1893.

No. 450.—Third Grade Hospital Assistant Gurudas Barna, on transfer to Myingyan, relinquished charge at the Police Hospital, Shwebo, on the afternoon of the 13th September 1893.

No. 451.—Third Grade Hospital Assistant, No. 659, Moula Buksh relinquished charge at the Outpost Hospital, Kyaukpadaung, Myingyan district, on the forenoon of the 4th September 1893, and assumed charge at the Police Hospital, Myingyan, on the afternoon of the 11th September 1893.

No. 451 (CORRIGENDUM).—In Notification No. 427, dated the 7th September 1893 *for* "21st May 1893" *read* "31st May 1893."

No. 453.—With reference to Notificatiou No. 446, dated the 21st September 1893, Second Grade Hospital Assistant No. 46, Jagashur Lal assumed charge at the Reserve Military Police Battalion, Pyawbwe, Yamethin district, on the forenoon of the 21st September 1893.

No. 454.—Second Grade Hospital Assistant, No. 102, Abraham Samuel relinquished charge at the Civil Hospital, Kindat, Upper Chindwin district, on the forenoon of the 24th August, and assumed charge at the Outpost Hospital, Mingin, Upper Chindwin district, on the forenoon of the 2nd September 1893.

No. 455.—With reference to Notification No. 409, dated the 31st August 1893, Second Grade Hospital Assistant, No. 409, Ramaya Nagappa assumed charge at the Civil Hospital, Kindat, Upper Chindwin district, on the forenoon of the 24th August 1893.

No. 456.—Third Grade Hospital Assistant, No. 80, Chunder Shekore Roy, on availing himself of six months' leave on medical certificate, relinquished charge at the Jail Hospital Myingyan, on the afternoon of the 18th September 1893.

No. 457.—With reference to Notification No. 435, dated the 14th September 1893, Third Grade Hospital Assistant, No. 19, Shyam Kishore Dey assumed charge at the Police Hospital, Bhamo, on the afternoon of the 14th September 1893.

No. 458.—With reference to Notication No. 450, dated the 21st September 1893, Third Grade Hospital Assistant, No. 77, Gurudas Burna assumed charge at the Police Hospital, Myingyan, on the forenoon of the 16th September 1893.

No. 459.—With reference to Notification No. 449, dated the 21st September 1893, Third Grade Hospital Assistant, No. 1210, M. Ramuni assumed charge at the Jail Hospital, Myingyam, on the afternoon of the 18th September 1893.

No. 460.—Third Grade Hospital Assistant Syed Mahomed Abdus Shakur, on availing himself of three months' privilege leave, relinquished charge at the Reserve Military Police Battalion, Pyawbwe, Yamethin district, on the forenoon of the 21st September 1893.

No. 461.—With reference to Notification No. 419, dated the 7th September 1893, pensioned Second Grade Apothecary J. Rath assumed medical charge of the Military Police Battalion, Mandalay, on the forenoon of the 28th September 1893.

No. 462.—Third Grade Local Assistant Surgeon Maung Po Kyaw, on availing himself of six months' leave on medical certificate, relinquished charge at the Civil Dispensary, Bassein, on the forenoon of the 20th September 1893.

No. 463.—With reference to Notification No. 406, dated the 31st August 1893, First Grade Hospital Assistant, No. 50, Salik Ram assumed charge at the Civil Dispensary, Fort Stedman, on the afternoon of the 20th September 1893.

No. 464.—Second Grade Hospital Assistant, No. 511, Syed Mahomed Abdus Sattar relinquished charge at the General Hospital, Rangoon, on the forenoon of the 8th September 1893, and assumed charge at the Civil Dispensary, Tharrawaddy, on the afternoon of the 14th September 1893.

No. 465.—Third Grade Hospital Assistant, No. 125, Ali Ahmed relinquished charge at the Police Hospital, Myitkyina, on the forenoon af the 4th September 1893, and assumed charge at the Outpost Hospital, Namli, Mogaung subdivision, on the forenoon of the 9th September 1893.

No. 466.—With reference to Notification No. 321, dated the the 13th July 1893, Third Grade Hospital Assistant No. 86, Narayan Prosad Mahapatra assumed charge at the General Hospital, Mandalay, on the forenoon of the 2nd July 1893.

No. 467.—Third Grade Hospital Assistant, No. 86, Narayan Prosad Mahapatra relinquished charge at the General Hospital, Mandalay, on the afternoon of the 8th July 1893, and assumed charge at the Police Hospital at that station on the afternoon of that date.

No. 468.—Third Grade Hospital Assistant, No. 86, Narayan Prosad Mahapatra relinquished charge at the Police Hospital, Mandalay, on the forenoon of the 16th July 1893, and assumed charge at at the Outpost Hospital, Minhla, Thayetmyo district, on the forenoon of the 21st July 1893.

No. 469.—In this office Notification No. 433, dated the 14th September 1893, *for* "on re-transfer to the Military Department, Madras," *read* "on availing himself of three months' privilege leave."

No. 470.—Under paragraph 7 of Government of India, Home Department, Resolution No. 16, dated the 9th January 1878, Second Grade Hospital Assistant, No. 511, Syed Mahomed Abdus Sattor assumed, as an additional duty, charge of the Lock-up, Tharrawaddy, on the afternoon of the 14th September 1893.

No. 471.—this office Notification No. 412, dated the 31st 1893., *for* "afternoon of the August 1893," "*read* forenoon of the 8th August 1893."

No. 472.—Second Grade Apothecary F. Bradley, on availing himself of three months and 15 days' privilege leave, relinquished charge of the Civil Surgeoncy, Norther Shan States, Lashio, to First Grade Hospital Assistant, 1058, V Chinnasawmy Pillay on the forenoon of the 28th September 1893.

No. 473.—First Grade Hospital Assistant, No. 31, Hashmat Ali, on availing himself of three months' privilege leave relinquished charge at the Civil Hospital, Mergui, on the afternoon of the 3rd July 1893.

No. 474.—First Grade Hospital Assistant, No. 31, Hashmat Ali, on return from the leave granted in the above notification, was placed in charge of the Darjeeling coolies proceeding to Fort White on the forenoon of the 28th September 1893.

No. 475.—Second Grade Hospital Assistant, No. 492, Villiat Hussain, on transfer to Myitkyina, Mogaung subdivision, relinqhished charge at the Police Hospital, Shwebo, on the forenoon of the 26th September 1893.

No. 476.—Third Grade Hospital Assistant No. 83, Anath Bundoo Mukerji relinquished charge at the Outpost Hospital Shwegu, Bhamo district, on the forenoon of the 21st September 1893, and assumed charge at the Police Hospital, Bhamo, on the afternoon of the 27th September 1893.

No, 477.—Third Grade Hospital Assistant, No. 119, Shyam Kishore Dey relinquished charge at the Police Hospital, Bhamo, on the forenoon of the 18th September 1893 and assumed charge at the Outpost Hospital, Shwegu, Bhamo district, on the forenoon of the 21st September 1893.

No. 478.—Third Grade Hospital Assistant; No. 59, Abdul Gunny relinquished charge at the Outpost Hospital, Kyaukpadaung, Myingyan district on the afternoon of the 23rd September 1893, and assumed charge at the Police Hospital Myingyan, on the forenoon of the 30th September 1893.

No. 479.—Third Grade Hospital Assistant No. 77, Gurudas Barua relinquished charge at the Police Hospital Myingyan on the forenoon of the 19th September 1893 and assumed charge at the Outpost Hospital, Kyaukpadaung, on the afternoon of the 30th September 1893.

G. O. C. C.

785. The under-mentioned officer is granted leave to England:—

Army Medical Staff.—Surgeon-Captain W. Kelly, to England, for six months, on medical certificate.

3rd Bengal Infantry.—Surgeon-Captain E. Jennings, to the medical charge of the regiment, *vice* Surgeon Captain T. Grainger.

1st Battalion, 4th Gurkha Rifles.—Surgeon-Major G. Griffiths, from the medical charge of the 3rd Bengal Cavalry to the medical charge of the Battalion, *vice* Surgeon-Major G. C. Peevor.

This transfer is made solely in the interests of the public service.

827. Brigade-Surgeon Lieutenant-Colonel W. P. Warburton, Indian Medical Service, is appointed to officiate as Principal Medical Officer, Assam District, during the absence of Surgeon-Colonel C. P. Costello on leave, or until further orders.

836. The undermentioned Native Medical Pupil, having passed his final examination, is admitted into the service as a Sub-hospital Assistant, with effect from the 15th July 1893:—

No. 783, Muhammad Ghaus.*

* Passed in English.

854. The undermentioned officer has leave of absence:—

Army Medical Staff.—Surgeon-Major G. W. Brazier-Creagh, for six months, to Persia.

Hospital Assistant Firozdin, Indian Medical Department, is dismissed from the service.

Domestic Occurrences.

BIRTHS.

BANNERMAN.—At Madras, on the 13th October, 1893 the wife of Surgeon-Captain W. Bannerman, I.M.S. of a daughter.

DAVIDSON.—On the 25th September, at Satara, the wife of D. C. Davidson, Surgeon-Major, I.M.S., of a daughter.

DURRELL-PANK—On the 26th September, at Oodeypore, Rajputana, the wife of Surgeon-Major, P. Durrell-Pank, I.M.S., of a son.

MYLES.—At Neemmch, on the 16th October, 1893, the wife of Surgeon-Major E. H. Myles, A.M.S., of a son.

MARRIAGE.

ALLEN—TRESIDDER.—On September 14th, 1893, at Croydon, James, eldest son of James Allen, of Warrington House, Duppas Hill, Croydon, to Ethel, daughter of the late Surgeon-General John Nicholas Tresidder. H. M. Indian Medical Service, and Mrs. Tresidder, of Enderby, Warham-road, Croydon.

CLAY—BROWN.—At Saint Matthias's, Vepery, Madras, on the 18th September, by the Rev. J. F. Spencer, Herbert Mitchell, eldest son of late Rev. John Clay (S. P. G.), to Maud Eveline, eldest daughter of Mr. J. Brown, of the Subordinate Medical Department, Madras.

GARVIE—CLEPHAN—At St. Helen's, Low Fell, on the 13th September, 1893, by the Revd. Moore Ede, Rector of Gateshead, Surgeon-Captain J. Garvie, I. M. S., 2nd Punjab Cavalry, to Mary, daughter of R. C. Clephan, Esq., Southdene Lower, Low Fell, Gateshead.

DEATHS.

PARSONS.—On October 6th 1893, at Bridgwater, Somerset, England, John Parsons, Esq., F.R.C.S., in his 80th year.

WAITE—On Oct. 2nd, at Bombay, William E. Waite, Honorary Surgeon. Indian Medical Department, aged 78 years, 7 months and 5 days, deeply regretted.

Acknowledgments.

NOTICES TO CORRESPONDENTS.

Civil Apothecary.—There is no civil apothecary class at the Calcutta Medical College.

Persian Gulf.—Consult the quarantine regulations.

M.B., C.M.—We cannot say exactly what the ointment is, but we agree with you in saying it has a strong smell of nicotine and lime.

Hospital Assistant.—The case is a most singular one; why not send us full details for publication?

L.M.S.—Phosphorous is a most difficult preparation to manage, and all its alcoholic solutions are unstable; for a pill formula. See Martindale's Pharmacopœia.

Moffusilite.—Your relation to the Civil Surgeon is that of a Subordinate, and as such you are expected to carry out any instructions he may choose to give you. We are afraid you are are reasoning perversely, and to your own detriment in this matter.

Calcutta Practitioner.—Your complaint is just, but every young practitioner has to live through these difficulties.

Assistant Surgeon.—Write to one of the booksellers and publishers of Calcutta.

Argenti Nitras.—We think you were quite right, but we ourselves prefer operative treatment, as it saves time and is more thorough.

Enquirer.—17th June 1881.

Cortex.—See our issue for January 1893.

Letters and Communications have also been received from.—Surgeon Lieutenant-Colonel Edward Lawrie, I.M.S. Hyderabad, Deccan; Dr. Lennox Moore, London; Dr. Arnold Caddy F.R.C.S.E., Calcutta; Dr. Leonard, A Bidwell, F.R.C.S., London;

Surgeon-Captain B. D. Basu I.M.S. Poona; Dr. Nowrojie Bombay; Dr. A. P. Dass, L.M.S., Calcutta; Dr. A. L. Sandel, M.C., M.B., Calcutta; Dr. N. C. Mittra, M.B., M.A., Ranchee; Dr. J. C. Day, M.B., Assam; Dr. V. J. Pillai, M.B., Madras; Dr. Peters, Madras; Dr. R. P. Banerjee, B.A., G.B.M.S.L., Pachbadra, Rajputana; Dr. Wright, London; Dr. Green, Lnndon; Dr. Coopoosammy, Tuticorin; Dr. A. C. Basu, M.B., Calcutta; Dr. Mul Chand, Delhi; Dr. T. Egappa L.M.S., Dachepalle; Dr. R. N. Ghosal, L.M.S., Barisal; Dr. Gunga Sing, L.M.S., Benares; Dr. T. M. Shah, Jugagadh, Kathiawar; Dr. Sanyal, Palamow; Dr. Chew, Calcutta; "Veritas"; "Sanitarian"; Dr. Banerjee, Calcutta; The Editor, *Scalpel*; Dr. Behari Lall, Rampore; Dr. Abdool Aziz, Lucknow; Dr. Dias, Bombay; Dr. Gomez, Amherst; Dr. Tyler, Colombo; Hospital Assistant Benode, Behary Mozumdar, Perihar, Mozufferpore; Hospital Assistant M. B. Vinze, Baranagor, Malwa; Dr. R. G. Bathir Rao, Mylapulyam; Dr. S. M. Sinha, Mau; Dr. Ruttan Lall, Jolali.

Periodicals.—The Lancet—The British Medical Journal—The Edinburgh Medical Journal—Indian Medical Gazette—Journal de Mèdicine de Paris—Modern Medicine—Australian Medical Journal—The Sanitary Journal—The Medical and Surgical Journal—The Medical Times and Register—The Lancet-Clinic—The Medical Bulletin—The Medical and Surgical Reporter—The New York Medical Journal—The Family Doctor—The Medical Week—Health Messenger—Health—The Medical Record—British and Colonial Druggist—Chemist and Druggist—The Medical Review—New Orleans Medical and Surgical Journal—The Medical Monthly—The Scalpel—The Humanitarian—The Popular Science Monthly—The Sanitary Record—The Medico-Surgical Bulletin—The Southern Medical Record.—The Sanitarian—Doctor's Weekly—The Post Graduate—The Therapist—The Universal Medical Journal—The Medical Compend—The Medico-Chirurgical Review—The Medical Fortnightly—Notes on New Remedies.—The American Therapist.

Government Gazettes.—Gazettes of the Government of India, N. W. P. and Oudh, Burmah, Central Provinces, and Assam—G. O. C. C.

Newspapers.—The Broad Arrow—The Home News—The Indian Daily News—The Statesman—The Eastern Guardian—The Evening Star—Newman's Bradshaw—Hope—The East—Bombay Native Opinion—The Bangalore Spectator—Nagpur and Berar Times—Progress—Punjab Patriot—Arrakan News—Rangoon Gazette Weekly Budget—The Express—Madras Advertiser—Behar Herald and Indian Chronicle—Bombay Guardian—Banner of Asia—Tribune—Beluchistan Gazette—Western Wit and Wisdom—Indian Empire—Gwalior Gazette—Eurasian Recorder—People's Friend—India Watchman—Messenger of Light—Indian Nation—Indian Union—Poona Observer—National Guardian—Indian Engineering—Courier—The Argus—The Bengal Times—Signs of the Times—The Indian Textile Journal—The Amrita Bazaar Patrika (Weekly Edition)—The Kathiawar News.

Notices.

All literary communications should be addressed, and all payments made to—

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Editor and Proprietor,
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Original Articles.

THE THERAPEUTIC VALUE OF IPECACUANHA DEËMETINISATA.*

BY A. A. KANTHACK, M.D., M.R.C.P.,
MEDICAL TUTOR AND REGISTRAR, LIVERPOOL ROYAL INFIRMARY,
AND A. CADDY, F.R.C.S.,
CALCUTTA.

ALMOST all authorities are agreed that ipecacuanha is one of the most valuable drugs in the treatment of acute dysentery. The one great objection, however, to its administration in such doses as are required in this disease is its emetic effect. To Surgeon-Major Harris, of Nagpur, belongs the credit of having been the first to suggest the preparation and use of *Pulvis Ipecacuanhæ Radicis* deprived of its emetine.† Harris speaks favourably of his results, and warmly recommends deëmetinised ipecacuanha in cases of acute dysentery. Since the publication of his preliminary notice several firms have prepared such ipecacuanha deprived of its emetine, notably Messrs. Symes and Co., of Simla, Ferris and Co., of Bristol, and Evans, Lescher, and Webb, of London.

Dr. Prescott, of Bombay, has also given this preparation of ipecacuanha a trial. His drug was prepared by Messrs. Kemp and Co., of Bombay, and has been very successful in his hands.‡ Prescott finds that in none of the six cases in which he tried the drug was there any depression, nausea, or vomiting, and the dysenteric stools quickly assumed a more or less semi-solid consistency and became tinged with bile, and the abdominal symptoms rapidly disappeared.

Surgeon-Captain Walsh, on the other hand, obtained unsatisfactory results with deëmetinised ipecacuanha prepared by Surgeon-Major Warden, Chemical Examiner to the Government of Bengal, and he came to the conclusion that the value of ipecacuanha in dysentery is due to the emetine contained therein.‖ He was so convinced of this that he inaugurated a new treatment, which he does not hesitate to call the "rational" treatment of dysentery, and which consists in giving the emetine separated from ipecacuanha by Warden's method* in combination with biniodide of mercury ($C_{20}H_{30}N_2O_5,HgI_2$) "Emetine thus combined remains inactive in the presence of acids and does not produce vomiting."

Since Harris's idea seemed a sound and rational one, it appeared just possible that the discrepancies in the results might depend on a faulty preparation of the deëmetinised ipecacuanha, and therefore Dr. E. Merck, of Darmstadt was invited to prepare an ipecacuanha deprived of its emetine without altering the other constituents. A year or so later the latter sent us some *Pulvis Ipecacuanha Radicis deëmetinisatus,* and we wish now to report on the same. We gladly express our obligation to Dr. Crombie, of Calcutta, for the aid he has given us, and also to Dr. E. Merck for his kindness and ready help whenever a chemical analysis was required.

(A) *Emetic effect of Radix Ipecacuanhæ deëmetinisata* (Merck).

The powder may be given in large doses (gr. xx.) without in most cases causing vomiting, depression, or nausea. In all cases where the powder was given by one of us in acute dysentery no vomiting occurred. Dr. Crombie, however, reports that in some of his cases vomiting did occur. It was, however, uncommon, and it is moreover questionable whether Dr. Crombie's cases were watched with sufficient care. One of us, took gr. xx—xxx on twenty occasions without feeling the slightest nausea or depression and no vomiting resulted. Recently Merck has also prepared a solution of ipecacuanha deëmetinisata, containing gr. j to ℥j. This has been extensively tried by one of us, with the result that in no case did ℥xx cause vomiting; in one case ℥xl—l did, while in sixty instances not even ʒj caused the slightest nausea or depression.

Dr. Crombie writes in a letter to one of us: "The ipecacuanha deëmetinisata caused vomiting in a considerable proportion of instances, but the vomiting when it did occur was not so distressing as that caused by ordinary ipecacuanha and was not a bar to its administration. It has thus this advantage over ordinary ipecacuanha that it does not usually cause vomiting and where it does so, they are of a much less distressing character." Dr. Crombie administered the drug in scruple doses on eighty-five occasions, and there was vomiting in only sixteen instances, or in 18.6 per cent. The vomiting, however, was always slight in character. Unfortunately Dr. Crombie's patients were coolies at the coolie depôt, and therefore not under the same control or discipline as European patients in well-regulated hospitals. Nevertheless his results are extremely satisfactory, and the non-emetic action of Merck's ipecacuanha may be considered to be sufficiently established.

(B) *Antidysenteric action of Radix Ipecacuanhæ deëmetinisata* (Merck).

The next test to be applied to this preparation was its effect in cases of dysentery. Here also Dr. Crombie offered a helping

* Although this paper has already appeared in the *Practitioner,* we are reproducing it from the reprint sent us by Dr. Caddy for the benefit of our readers owing to its very great importance to medical practitioners in this country.

† *Lancet,* vol. ii. 1890, p. 468.
‡ *Indian Medical Record,* April 1891, p. 257.
‖ *Indian Medical Gazette,* Sept. 1891, p. 296.

* *V. infra.*

hand. He tried the drug in seven cases, and "its administration was followed by improvement and recovery in six out of the seven cases." "In one case improvement followed immediately, and as a rule improvement followed after an average treatment of 3·3 days." Dr. Crombie with creditable caution sums up thus: "It is evident that no definite conclusion can be formed as to this ipecacuanha in the treatment of dysentery with the small quantity of 100 grammes at my disposal." He is not devoted to the ipecacuanha treatment of dysentery, whatever form of ipecacuanha be used, and writes thus: "Neither ipecacuanha B.P. nor Merck shows any special advantage in the treatment of dysentery, as compared with the treatment by means of bismuth and Dover's powder, which causes no distress whatever.* If, however, driven to use ipecacuanha," he continues, "I shall certainly give the preference to the deëmetinised form." As it is our object in this paper merely to point out the advantages of Merk's ipecacuanha over the ordinary B.P. form in the treatment of dysentery, and the question as to whether ipecacnanha is the most useful drug in this disease is altogether outside our purpose, we consider Dr. Crombie's statement highly satisfactory.

One of us had the opportunity of treating sixteen consecutive cases of acute dysentery in Calcutta with Merck's powder. These occurred with one exception in private practice amongst Europeans of the better class, who came under treatment at all stages of the disease. Scruple doses of ipecacuanha deëmetinisata were given, and if relief was not afforded by one dose, it was repeated after twelve hours in ordinary cases. In severer cases it was given every six or eight hours, till blood and mucus disappeared from the motions. In no case did vomiting or nausea and depression result; on the contrary, pain was to a great extent relieved and the temperature fell in most cases. Patients who had had previous attacks of dysentery and dreaded the administration of ipecacuanha, knowing the fearful feeling of depression or nausea usually associated with it, were relieved when with Merck's preparation no such symptoms appeared. The dysenteric stools as a rule disappeared in from three to five days, and in one case only the patient was not improved. It is, however, a well-known fact, that by no means all cases of acute dysentery are benefited by ipecacuanha, and we are far from recommending this drug with therapeutic enthusiasm as a universal remedy. We only contend that, in those cases in which ipecacuanha is indicated, it should be administered in its deëmetinised form, and so far as our experience goes Merck's is by far the most trustworthy and safest preparation.

(C) *Comparative Analysis of the various forms of Ipecacuanha deëmetinisata.*

It was mentioned above that some physicians in India condemn the deëmetinised preparation of ipecacuauha. Thus the drug prepared by Warden was used at the European General Hospital and found worthless. This criticism can, however, apply only to Warden's ipecacuanha, and it will be shown that but little good could be expected from it. The value of deëmetinised ipecacuanha undoubtedly depends on its mode of preparation. Warden percolates the powdered root with alcohol acidulated with acetic acid, which dissolves out the emetine. Unfortunately this acidulated alcohol dissolves also other substances soluble in alcohol, amongst which may be mentioned ipecacuanha-tannic acid, and the result is—probably an almost useless residuum. Here nothing shall be said of the chemical nature of emetine, except that emetine is undoubtedly an alkaloid, easily soluble in alcohol, and also in acetic and hydrochloric acid, which it neutralises, being a strong base.

Merck uses exclusively *Radix Ipecacuanhæ optima vera* (Brazil or Rio ipecacuanha), and is careful to remove the emetine only, leaving the other constituents of the root unchanged. Thanks to Dr. Merck's assistance, we are enabled to give a comparative statement of the various forms of deëmetinised ipecacuanha in the market, which we have arranged in tabular form.

	Name of Manufacturer.	Amount of Emetine.	Amount of extractives soluble in alcohol.
A	Warden (Calcutta) ...	Traces.	5 per cent.
B	Symes & Co. (Simla) ...	0·1 per cent.	7·4 ,,
C	Evans, Lescher & Webb (London)	0·16 ,,	2·8 ,,
D	Ferris & Co. (Bristol) ...	0·1 ,,	2·5 ,,
E	Merck (Darmstadt) ...	Minimal.	10·3 ,,
F	Kemp & Co. (Bombay) ...	1·2 per cent.	11·3 ,,

It is probable that the alcoholic extract contains the antidysenteric principle. Merck has carefully prepared some of this, which at the present time is being tried by one of us. If this be so, it is evident that (C) and (D) are practically useless. It will also be seen that (B), (C), (D), and (F) contain comparatively large quantities of emetine, for good radix ipecacuanhæ, according to Merck, contains from 1·5—2 per cent. of pure emetine.

Undoubtedly Warden's method is faulty. It is true that by means of alcohol and acetic acid the emetine has been almost entirely removed; but these solvents also remove the great part part of those bodies which are soluble in alcohol. By this method, therefore, a preparation is obtained which contains but little of the substances soluble in alcohol, and is therefore perhaps inactive. We have no information as to how Symes and Co.'s preparation is made. It is however not quite free from objection, for it contains emetine in quantities which are after all not immaterial. It contains, however, a fairly large percentage of the substances soluble in alcohol, and it is therefore possible that only a portion of the active antidysenteric principles was removed by the imperfect extraction of emetine; and this may explain the usefulness of the preparation in cases of dysentery which Harris claims for it.

The other preparations require no further discussion, since the above table explains itself. Undoubtedly Merck's ipecacuanha is the most useful of them, and he alone has succeeded

* See also *Medical Annual*, 1893, p. 187.

in removing as much of the emetine as can be expected without appreciably disturbing the other contituents of the root.

(D) *Does the value of Ipecacuanha in Dysentery depend on the Emetine?*

Walsh and Warden have expressed an opinion that the value of ipecacuanha in acute dysentery depends on the emetine contained therein. This view, however, is certainly erroneous and untenable. Walsh* gives a mixture of emetine and biniodide of mercury and finds that when administered by the stomach no vomiting ensues. This emetine-mercuric iodide ($C_{20}H_{30}N_2O_5$, HgI_2) was tried in numerous cases of dysentery, and its effect was apparently very favourable; but that the beneficial effect was in any way due to the emetine, combined as it was with mercuric iodide, is highly improbable. A solution of emetine in weak hydrochloric or acetic acid is precipitated by a solution of HgI_2, and the resulting $C_{20}H_{30}N_2O_5$, HgI_2 is quite insoluble in water, weak or strong acids, and alkalies; and hence cannot he absorbed by the mucous membrane of the gastro-intestinal tract, and naturally does not cause vomiting. Walsh used a mixture of the emetine-mercuric iodide precipitate with sugar (two parts of the precipitate to ninety-eight of sugar) of which he gave gr. x every four hours. Probably the good effect of this treatment depends on the mercuric iodide, which is an extremely powerful antiseptic; but it is difficult to see how an absolutely insoluble compound of emetine could have any action on the liver or the intestinal mucous membrane.

It has also been said† that ipecacuanha combined with tannic acid is very efficacious, having lost its emetic action while retaining its antidysenteric properties. That ipecacuanha or emetine given with tannic acid does not cause vomiting is an undoubted fact; of this one of us has convinced himself through personal experience. Five times the emetic dose of emetine may be taken with tannic acid without any vomiting or nausea resulting. How are we to explain this? It has been assumed that an insoluble tannate of emetine is formed. This however is not so. If emetine be dissolved in strong hydrochloric acid and tannic acid added, a precipitate falls which is insoluble in strong hydrochloric acid. This however is not a tannate of emetine, but is simply due to the action of strong hydrochloric acid on tannic acid. Emetine should be dissolved in weak hydrochloric acid about the same strength as the gastric acid, and then it will be found that on adding tannic acid no precipitate results. To prove that tannate of emetine is soluble in very dilute hydrochloric acid, to a solution of emetine in weak acetic acid tannic acid should be added. A tannate results which is insoluble in dilute acetic acid, but soluble in excess of acetic acid or in strong acetic acid and also in weak hydrochloric acid, being of course converted into $C_{20}H_{30}N_2O_3$, HCl, which acts as a strong emetic. Yet why does this mixture of emetine and tannic acid not cause vomiting, although in the stomach there would be free hydrochlorate of emetine? The only explanation which can be offered is that the tannic acid must act mechanically or affect the mucous membrane of the stomach and intestine in such a way that it is unable to absorb: and if the tannic acid and ipecacuanha mixture has any beneficial action, this must be due to the tannic acid, but cannot possibly be ascribed to the emetine present.

We conclude therefore that no proof exists to establish the view that the antidysenteric value of ipecacuanha depends on its emetine. The treatment of dysentery with $C_{20}H_{30}N_2O_5$, HgI_2 may be the most *rational*; but the *rationale* thereof does not rest with the $C_{20}H_{30}N_2O_5$, but possibly with the HgI_2, probably present in excess.

Conclusion.—Summing up, we may say in ipecacuanha deëmetinisata we possess a valuable remedy in cases of acute dysentery, valuable because it does not cause distressing nausea or depression and yet possesses its full antidysenteric properties. It should certainly be tried in such cases as would otherwise profit from the administration of ordinary ipecacuanha. It cannot be expected to cure all cases of acute dysentery; where ordinary ipecacuanha fails, the deëmetinised drug must also fail.

In conclusion, we must express our deep sense of gratitude to Dr. Ruhemann, of Caius College, Cambridge, who has kindly advised us in the chemical study of emetine and its reactions with tannic acid.

* *Loc. cit.* and *Pharmac. Journal and Transact.* III vol. xxi. No. 1,087, p. 959, April 27, 1891.

† Communication from Dr. Merck.

MISCARRIAGE AND ITS TREATMENT.

By M. Anvard M.D., and L. Tonverment M.D.

(Translated from the *Journal de Medicine de Paris* for the *Medical Reporter*).

Whenever a pregnant woman is delivered before the expiration of the full term it is called a premature expulsion. If this occurs during the first six months or 180 days of pregnancy it is termed a miscarriage, after that time a premature confinement.

Miscarriage is classified under two headings according to the the time at which it occurs. If during the first three months of pregnancy it is termed embryonic, if during the second three months fœtal. Before the fourth month the patient only expels an embryonic mass i.e., an incomplete human form, and between the 4th and 7th months a fœtus not likely to live.

The common appellation, *miscarriage*, applies to all kinds of premature expulsions whether embryonic, fœtal, or after the 7th month a prematurely born living child. In this article we intend to discuss fœtal miscarriage. We wish to make the difinition between this and embryonic miscarriage quite clear as to time, as the treatment varies accordingly; for example take the case where a woman has a threatened miscarriage during the second period of pregnancy i. e, during the 4th 5th, or 6th month.

What are the causes of this fœtal miscarriage? The etiology is usually divided into productive and determining causes. The only determining cause is contraction of the uterus, the

result of a productive cause. There are many productive causes; they are nontraumatic and traumatic.

Nontraumatic Causes.—These may be caused by the father, mother or ovum. In the father all diseases which tend to cause debility and weakness, such as old age, senile decay, incontinence, syphilis, tuberculosis, heavy drinking, or orchitis, prostatitis or urethritis, may by interfering with the vitality of the spermatozoa, stunt the development of the ovum. In the mother the principal causes are chronic disease, extreme youth or old age, abdominal tumours, metritis, endometritis, uterine displacements, flexions, and ovular uterine hæmorrhages. In the ovum, degeneration of the placenta causes death of the fœtus, and its expulsion.

Traumatic Causes.—Affect the mother and ovum. In the former any traumatic influence in the genital region or on the abdominal wall tends to cause expulsion. All shocks and mental emotions may do the same, all minor operations on the cervix uteri such as cauterization, digital examination, forcible injections, excessive copulation and introduction of any foreign body into the uterine cavity may bring on premature expulsion. On this account the medical man frequently finds it difficult to arrive at a diagnosis. As an example let us take the case of a threatened miscarriage, in the middle of the second period of pregnancy *i.e.*,—the 5th month. The condition of the patient is generally perceptible and is confirmed by the following symptoms—active discharge of amniotic fluid, uterine hæmorrhage, or pains. Hæmorrhage and pains, even if not the initial symptoms, appear at an early stage, and increase or decrease according as the treatment is successful, or not, in averting expulsion. Digital exploration is very useful in forming a diagnosis of the condition of the uterus.

1. Expulsion of the embryo during the first three months does not interest us here.

2. Expulsion (partial) of the placenta, membranes, or cord during the 2nd period of three months.

3. During the third period of three months. The descent of the membranes *en masse* or partially, at this period, the placenta is adherent to the uterine walls and is detatched with difficulty.

Sometimes during the first three months the embryo and rudimentary membranes and placenta are expelled in one mass. Miscarriage may be complete in a few hours or may take several days. When completed, pain and hæmorrhage cease, but a slight discharge continues for a few days. In 3 or 4 weeks time the organs have nearly resumed their normal condition.

On examination of the expelled result of conception it will be found to be a fœtus more or less macerated, according to the time it was retained—after death—or alive, that is to say, it may be a palpating mass visible to the naked eye making efforts at respiration; these continue only for a few minutes.

A miscarriage occurring during the 4th month differs little to that described above, except that the signs of life in the fœtus are less marked. In the sixth month expulsion more nearly resembles a premature confinement.

Though the above is a fair example of a typical case of abortion the symptoms vary in all cases. For example the fœtus may be expelled after the placenta instead of before, as is usually the case, or it may die before expulsion. A miscarriage may be followed by general septicæmia, or localized round the uterus. This is more to be feared when part of the membranes or placenta are retained, or severe hæmorrhage may cause syncope or even death of the patient.

The diagnosis of threatened premature expulsion consists of many difficult points.

1st—Is expulsion threatened? Here we must study the character of the pains, hæmorrhage, and condition of the cervix uteri. Intermittent contraction of the uterus proves that the pain is not caused by any other abdominal disorder, uterine hæmorrhage having occurred, and the duration of pregnancy being known, the seriousness of the case depends upon the amount of blood lost. Any uterine hæmorrhage is liable to cause expulsion, the greater the flow the greater the danger. A great loss of blood invariably causes expulsion of the uterine contents. The chief thing is to find out the cause of the hæmorrhage. If it is a result of Bright's disease, heart disease, or an epidemic, or the insertion of a foreign body into the cervix, it is of a graver nature than early menstruation in pregnancy.

Let us now look at the cervix uteri. When the os is not permeable the diagnosis is good, but if it is open and relaxed, or the ovum has descended into the cavity, expulsion is to be feared.

2nd.—Can miscarriage be prevented? This is the main question to be considered, and if answered in the affirmative prophylactive treatment should be at once employed. The three following points are to be considered.

1 The life of the child.
2 The integrity of the ovum.
3 The condition of the cervix.

If the child be dead expulsion is inevitable and any attempt to delay it futile. Before the middle of the 4th month it is impossible to say if the child lives or not. The integrity of the amnion may be determined by the presence or absence of amniotic fluid. The possible presence of a false amnion should not be forgotten. As long as the ovum has not passed the internal orifice and the other symptoms are favorable, arrest of the threatened expulsion is possible; but if the ovum has entered the cervix, arrest of the expulsion is minimized. Even should the external os be open it may close spontaneously, the parts return to their normal state and pregnancy proceeds. These cases are however rare. It will thus be seen that it is impossible to fully diagnose the condition of the cervix. The more the ovum has descended into the cavity of the cervix, the less are the chances of averting abortion; but as long as the external os is not passed there is a chance.

3rd.—Is expulsion complete or not? Here the expelled substance must be carefully examined. If instead of blood clots the embryo and its surroundings are seen, there can be no doubt. If the embryo is absent, but its membranes present.

the contents of the womb are known. In cases where only blood clots and debris have come away a digital examination must be made to diagnose the uterine condition.

Examination of the Patient.—When pain and hæmorrhage continue without decreasing, it is certain that the uterus has not been emptied, but if on the other hand after waiting for a time involution is accomplished, and the menses return it is known that all is well. It will thus be seen that more reliable information may be obtained from examination of the expelled substances than from uterine exploration. The woman should however be examined to form a correct diagnosis.

To find the probable age of the fœtus divide its length by 5. For example a fœtus of 30 centimetres would be expelled at the sixth month. At the

4th month the fœtus would measure 20 centimetres
5th ,, ,, ,, 25 ,,
6th ,, ,, ,, 30 ,,

The symptoms vary according to the treatment adopted. The principal dangers, are hæmorrhage and septicæmia from retention of parts of the membranes. A miscarriage at the 4th month is the most dangerous, as it is very liable to be followed by hæmorrhage and retention of a portion of the membranes. As to treatment—it may be either preventive, prophylactic, or curative.

1 *Preventive Treatment.*—First ascertain the family history of the patient. Has she had a previous miscarriage or suffered from syphilis or heart disease?. If so adopt the proper course of treatment for these diseases; should the uterus be in a congested state, rest in bed should be enforced, sexual intercourse prohibited and biberum prunifolium ℥ xl to ℥ c in 24 hours administered, or opiates (Sydenham), laudanum ℥ x to xxx as an injection every 24 hours.

2.—*Prophylactic.*—The main courses under this heading are strict rest in bed, and the administration of sedatives such as bibernum prunifolium or preparations of opium (Sydenham) or subcutaneous injection of morphinæ hydrochlor: 1 to 4 centigrammes in 24 hours. These injections may be combined with vaginal injections of laudanum. It must be remembered that pregnant women are far more tolerant of opium in every form than those in the non-pregnant state. Big doses may therefore be boldly given.

3.—*Curative Treatment.*—This depends as to whether the ovum is still entirely within the uterine cavity or is partially or wholly expelled, it should be left to nature unless hæmorrhage or symptoms of septicæmia ensue. Should hæmorrhage ensue the vagina is to be plugged with tampons of iodoform gauze which may be allowed to remain in for 12 hours and on removal the expelled ovum will probably be found in the vagina. If this is not the case, but the hæmorrhage has ceased, strict quietness must be enforced and the patient watched, but should hæmorrhage continue the vagina must again be plugged for 12 hours. During the passage of the ovum through the cervical canal care must be taken not to rupture it by unnecessary traction. If symptoms of septicæmia ensue the attempt to evacuate the uterine contents must be made at once. This may be done by dilating the cervical canal with laminariæ, till the index finger can be introduced into the uterus, the cavity examined and carefully cleaned out with a curette. After expulsion more fragments of the ovum may remain in utero. If there are no bad effects such as hæmorrhage or septicæmia, nothing need be done. The patient must rest in bed to allow involution to proceed and an antiseptic injection per vaginum may be given twice a day. When hæmorrhage or septicæmia occur, we earnestly recommend dilatation of the cervix by laminariæ, or in cases of emergency by the metallic dilator; clean out the uterine cavity with a curette and wash it well out with intrauterine injections. If after this treatment there is still some bloody discharge, the *intrauterine cavity* should be plugged. To physicians who have not made gynæcology their special study this would be difficult to perform, and they would more easily be able to plug the vagina, and use intrauterine injections of from 2 to 10 litres twice a day to guard against septicæmia. These injections should be slightly antiseptic, hydrarg: bichlor: 1 to 10,000 or phenic acid 1 to 500 to avoid toxic effects. They should act mechanically by washing away the retained debris.

A MODIFIED OPERATION FOR EXTRACTION OF CATARACT SENILIS.

By T. Egappa, L.M.S.,
In charge of Dachepalle Civil Hospital,
Kistna District.

In almost all books on ophthalmic surgery, laceration of the capsule of the lens is described as the stage next to that of corneal section and iridectomy in the extraction of a hard cataract, and I believe that this rule is invariably followed by ophthalmic surgeons of the present day.

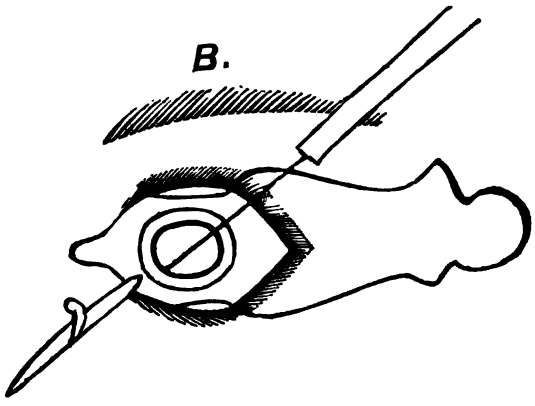
The modification I propose, and have adopted in all my later cases, is to tear the capsule of the lens as the preliminary step in the operation for extraction of cataract.

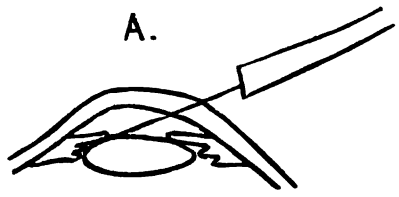
The advantages accruing from such a course will be understood only by those who have had some practice in cataract extractions.

The operation is briefly described as follows:—It is of course presumed that the pupil of the eye to be operated on is fully dilated by the previous use of a mydriatic, preferably with atropine. The patient's eye having been cocainized and cleansed with some boroglyceride lotion, the patient is laid upon a convenient table in front of a good light. The eyelids being separated by a stop speculum, and the globe held steady by fixation forceps held in the left hand (shown in *Fig. I*) opposite to the position of the puncture, a fine needle is passed rather obliquely through the cornea at a point just at the rim of the fully dilated pupil.

The best part of the cornea at which to insert the needle is that at from 2 or 3 mm. above and to the inner side of the outer extremity of the horizontal diameter of the cornea *(Fig. II)* This position will correspond with the middle of the upper and

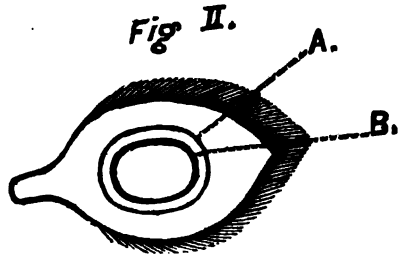
Fig. I.—Horizontal view.





Vertical view.

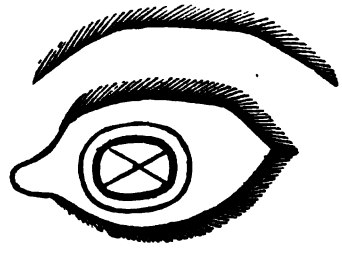
Fig. II.



(*a*). Point of puncture with needle for laceration of capsule.
(*b*). Point of puncture with knife for corneal section.

outer quadrant of the cornea, and is about to 2 mm. below and to the inner side of the puncture with the knife for the corneal section, which is the next stage in this operation. The needle is then made to lacerate the capsule of the opaque lens by a crucial incision to the extent of the fully dilated pupil (*Fig. III*). Care should be taken not to wound the posterior

Fig. III



Showing the crucial shape of incision of capsule with needle.

capsule of the lens, as the vitreous is then liable to come forward, nor to allow the aqueous to escape through the corneal puncture, as upon it mainly depends the next stage or that of corneal section.

No undue pressure should be exercised on the lens, or we may push it back into the vitreous chamber. The *tactus eruditis* of the operator is called most fully into play in estimating the amount of pressure to be used with the needle in tearing the capsule. A careless operator or a newly fledged oculist is sure to effect more or less than what is required. To prevent these accidents, some needles are made with a shoulder or "stop" which is a slight advantage to a novice, as it gives firmness to the needle, but is not a sufficient safeguard to a clumsy operator. If during the laceration of the capsule the aqueous escapes, the second stage of the operation should be postponed for the next day to allow time for re-secretion of the aqueous.

If the needle be of good make, it should exactly fit the corneal puncture. If it fits loosely, aqueous will escape; if too firmly, its movements will be impeded. To facilitate the introduction of the needle and to diminish the risk of the escape of aqueous, I generally coat the needle with a thin film of cold drawn castor oil.

The needle should be used in such a way as to cause that portion gripped by the corneal puncture, to act as the fulcrum, and the point of the needle and its handle as levers. On no account should a needle once introduced into the anterior chamber be withdrawn to any extent till the laceration of the capsule is completed, as the act of withdrawing and re-introduction widens the puncture in the cornea and causes the aqueous to leak out.

Having completed the laceration of the capsule, the needle should be gently withdrawn and the next stage of corneal section should be gone through without further delay. The incision in the cornea should be sufficiently large to allow of the easy exit of the lens without bruising the subjacent iris.

The position and the shape of the incision in the cornea being left to the fancy of the operator, the long disputed and vexatious question of iridectomy, next demands our attention.

No matter how great the authorities in favour of iridectomy may be, every man is bound to think matters out for himself and I, for one, do not care to excise the iris except in the very aged and feeble and in complicated cases, though iridectomy is unquestionably the sheet-anchor in the prevention of several complications incident on cataract extractions. In the few cases in which I extracted the lens without an iridectomy, the results were just as good, if not more so, as in those in which iridectomy formed part of the operation.

Lastly the lens should be coaxed out without the introduction of any instrument into the eye, merely by external pressure alone upon the lower margin of the cornea with the back of a curette, the pressure being directed backwards and upwards.

When the lens has passed out of the eye and the pupil is of a clear bright black color, the chief object of the operation may be said to have been attained.

The speculum should then be gently removed and the eye bathed with a soft stream of boroglyceride lotion. A drop or

two of a fresh solution of eserine having been instilled into the eye, a piece of lint, an inch and a half square, smeared on one side with an ointment composed of vaseline and iodoform, should be laid over the closed eyelids of each eye and moulded to them by light pressure. A small pad of cotton wool is then to be applied over this, rising as high as the bridge of the nose and eyebrow, and the whole secured gently with a turn of an antiseptic gauze bandage, before the patient is removed to his bed. In brief the whole operation consists in tearing the capsule with a needle as the first preliminary step. Then comes the stage of corneal section and last, but not least, is that of evacuating the lens.

The advantages claimed for this modified operation are :—

1. When the eyebrows are very large or when the orbit is very prominent, the difficulty of introducing a cystitome through the corneal wound in a cocainized patient straining violently during the passage of the instrument over the iris, can be more readily understood than described.

2. If the corneal incision and iridectomy be made before the laceration of the capsule, the cornea becomes hazy owing to the escape of the aqueous and the effusion of blood from the incised parts into the anterior chamber. This film of blood beneath the cornea completely obscures the lens and the iris from the operator's view. Under such circumstances, even a practised operator is sure to bungle in groping his way to the lens with the cystitome. Hence the laceration of the capsule cannot be anything but satisfactory.

3. This modified operation does not interfere with the iris in the least, and even a cocainized patient can go through the whole operation without any pain at all, and can get over the effects as though no operation was performed on him. Hence the chances of iritis, the most formidable enemy after cataract operations, are reduced to a minimum.

4. This operation requires great care and delicacy in manipulation. When successful, it gives very satisfactory results especially in the saving of time and in not adding a permanent and conspicuous blemish to the eye.

5. The shoulder of the cystitome is a suitable lurking place for some decomposing residua of a former operation, and in spite of special care in cleaning, this part of the instrument will never come up to the standard of surgical cleanlines. The same may be said about the teeth of iris forceps, if iridectomy were to form part of an operation. The sooner these instruments are done away with in cataract extractions, the better will be the chances of success.

Let me now place before my readers the results of my own experience, though short it be.

I have adopted this modified form of operation without iridectomy, in almost all the cataract cases among the ryots of this place during the last seven months, and the results were marvellous indeed, without a single failure. The analysis of my cases will be published later on. The notes of these cases are less complete than I could wish, not having been taken with any view to publication, and are defective from the omission to record the final result in vision.

I failed with my naked eye examination to make out any difference between the eyes operated upon and the sound ones beyond the fact that the pupils in the operated eyes were of a darker shade. The pupils readily responded to light and to the action of mydriatics. Almost all my patients being illiterate, I could not test their vision with Snellen's test types, but I should think the visual results were excellent in almost all the cases even beyond my expectation. The modified operation I have described has proved a very faithful servant, and will, I trust, prove to be so, to others, until a better method can be invented

MILK AND ITS DERIVATIVES.

A Lecture by R. G. S. Chew, M.D., C.M., M.S.C.,
Late Analyst to the Corporation of Calcutta.

Ladies and Gentlemen—

Brevity is the soul of wit; but unfortunately brevity and science are utterly antagonistic, and even science jars on the nerves of the uninitiated when computations, and dry numerical quotations—so dear to the diver into the mysterious regions of scientific research—are poured into the ears of the casual observer, or are placed before the eyes of any one not particularly interested in any other than the marvellously-pleasant experimental portion of chemistry.

Such indeed have I noticed during my last two lectures, which necessarily occupying a vast extent of time, partially hypnotised the major part of my audience, even though a few of them may have been roused from the deadly apathy under which Calcutta labours, where community, *not* individual, welfare was concerned.

Unity, my friends is strength, and though *individual* power may not be of much avail in launching the ironclads of *Merrie* England, or elevating the massive blocks with which the lofty pyramids of Egypt were built, still every ounce of force helps, and what was impossible to be effected by a solitary person, becomes particularly easy of accomplishment when *combined* effort is brought to bear on it.

Throw a *tiny* piece of *rennet* into a gallon of milk and in a very little while the whole of that milk will be on a fair way to the production of cheese. Why and how? The rennet curdles those particles of milk into which it comes in contact; the acidified impart their new quality to the particles surrounding them, and so on, until the acidity is imparted to the whole bulk of the milk.

Shake up a single grain of salt with a gallon of water and then taste the fluid so treated. The tongue does not detect anything; but that the salt has imparted its qualities to every single drop of that gallon of water can be readily *proved* by chemistry.

Even so a single voice, by proclaiming the truth and shewing each one how his or her *personal* interests are imperiled, may rouse hundreds of apathetic souls into immediate action; but let that same voice impart those same truths to the same

hearers, and declaim *community*, imperfections, and strange but true; not a single one of that same community will budge an inch, or be otherwise than too bashful, or too lazy, to come forward by himself or herself, and say I'll stand or fall by the side of Truth

Thirteen years ago ladies, was brought to me for treatment, a baby boy, who, having lost his mother, was fed wholely and solely on cows milk for the previous three years.

It was such a puny emaciated specimen of tortured humanity that, I was not a little surprised to learn that it was going on for four years of age, and not yet able to walk. The father of the child was a hard working man, whose duties very frequently compelled him to absent himself from home for days together, when the child was consequently left to the loving-kindness and and tender-mercies of the Ayah.

The father said that he had brought the child to me because he thought the boy was suffering from hereditary decline, or some constitutional ailment that he could make neither head nor tail of. Further enquiry elicited that as the milk was tested by the lactometer every morning, and shewn *pure (?)* he had no reason to suspect the *gowala* (*i.e.*, native milk-man) whom he believed to be strictly honest. However he had brought some of the milk for me to see if any thing was wrong with it.

Now though this sample of milk had a decidedly *bluish* tinge and curious taste, the lactometer nevertheless indicated it *pure*, whereas chemical analysis *proved* beyond dispute, that the milk had been *freely* watered, and its specific gravity brought up, by means of a little lotus-flour, to the pure-test mark on the lactometer.

Step up to this platform, gentlemen, and examine all these glasses before you: They (every one) appear to be genuine pure milk; smell them, they are good; taste them, they don't seem bad; drop in the lactometer and every one of them registers 1029, the specific gravity of pure milk. *You* are satisfied, are you, that all these are samples of good milk? Will it surprise you to find that every one of them consists of milk that has been diluted with three-fourths of its volume of water and then submitted to the gowala-trade additions to bring them up to the lactometer standard of purity?

You are not prepared to believe me. You cannot accept for gospel anything that attempts to shake your absolute faith in the *infallible* (?) lactometer.

Very well. Come to me at the close of this lecture, when I will prove to you that I am right, and be happy to make up in your presence some more *adulterated* samples that will readily pass the specific gravity test that *you* rely so much on.

From the day *that* poor little boy came into my hands I devoted myself to the study of Indian foods and their adulterations. I applied myself to English works on food analysis; but found them a decided failure, as the standard numbers quoted by them could never be arrived at in India, where the animals were differently fed and foods differently prepared, to what they were in Europe, where save in name and *imaginary* imitation, such substances as *ghee*, *malai-curry*, *mitais* &c., never existed, and where the *staple* foods of India are used as *delicacies* and made up after a fashion that even the street *chokras* (i.e., street Arabs) of India would laugh at most heartily.

For instance: according to English authorities *ghee* is clarified butter, that is to say, butter, heated till it parts with the major portion of its water and curds, and such a substance gives reactions that yield the left-hand column of the figures in the following table; but ghee, *strictly* speaking, is not merely melted butter, and gives figures that do not tally with those of clarified butter or butter fat, as English Analysts term it.

Comparision between English and Indian butter-fat or ghee.	Butter-fat or ghee of English chemists	The ghee of India (*purest*)
Average specific gravity ...	913·00	914·23
Melting point in degrees Centigrade	35·8	33·5
Solubility in alcohol & methyl ether	11 to 16	10
Grammes of potassium hydroxide required to saponify 2½ grms of ghee	2·01	2·783
C. C. of decinormal Soda required by the Reichert process ...	10·2.	13 to 15
Soluble fatty acids (per cent) ...	5·43.	6·98
Insoluble fatty acids (per cent) ...	88·77	89·91
Precipitation from chloroform ...	a little	*Nil*

The road to Science is hard up-hill work, and when after seven years of earnest application and several thousands of experimental analyses, I mentioned to some of my professors and teachers that the methods adopted by them were, in the main, a mere waste of time and material, and that the numbers in most part proved a delusion when brought to bear on India, as also that unless corrections (obtained by complex and *tedious* calculations) are in every instance made for capillarity and barometric and thermal influences, not a single density reading would be accurate, as specific-gravity bulbs, bottles, globes, and tubes are not true for all other premises and temperatures than those at which they were graduated, and *tested* at the time of manufacture. They jeered at my presumption (?) in inviting their notice, and failing in their vain endeavour to convince me that black was white, and white no color at all, declared that they ought to know and *did* know (better than I) what they were about, else they would not have been appointed tutors and teachers.

I am one of the humblest disciples of Æsculapias and disheartening though such snubbing might have been, it made me all the more determined not to be brow-beaten, as I knew but too well that Galileo was called a lunatic for saying the world was round; Sir Isaac Newton, an imbecile when he propounded the laws of gravitation; George Stephenson, a fool when he prophesied the future powers of steam; and Franklin, a raving idiot when he was prosecuting his electric researches, which now hold nearly six-tenths of this mighty world in sway.

If men, as these, and far greater than I may aspire to ever be, were each in his turn derided, jeered and scoffed at, till experi-

ence *proved*, yea trebly proved, their theories correct and rendering their several revilers dumb made them hang their heads with shame, why should not I, who worship *Truth* for its *pure* sake, be able to stand a little chaff from these professors, who were stronger of jaw than of reason, for to speak and read is in most cases much more easy than to do, and is it not less difficult to race down the broad track to the nether regions than to burst through the brakes and briars attending the narrow road aloft and besetting every inch of the intricate mazes of science?

Milk.

Which contains all the four classes of aliment necessary to health and the ratio of whose nitrogenous matter and fat—between which however there is *always* a certain proportion—is large when compared with its constituent sugar, is a fluid especially secreted by all female mammals for the nourishment of their young, until they (the offspring) can seek nutriment independent of the parent supply.

It therefore claims the first place among all the ordinary articles of human food, and as a source of nutriment is more allied to an animal than to a vegetable food; but, after taking into careful consideration all its various constituents, were we to regard its sugar as replacing a portion of the starchy matter of cereals we will find in milk an alimentary substance, which taking an intermediate position between the cereal and the strictly animals foods, has its component parts so admirably adjusted that, it may be looked upon as a *perfect* food, the relative proportion of whose principles or constituents are precisely such as are *best* suited to the nutrition of the various mammals for a few months after birth: Although it is not fitted to be the sole food of the adult, for—even if sufficient milk were taken to yield the quantity of nitrogen demanded by nature for the nutrition of the adult body—it will be found that the fat and water consumed would be in considerable excess of what is actually required.

Thus to obtain the 3.86 ounces of nitrogenous matter necessary to sustain him in life and health, an average man would—if cows milk were to form his *sole* diet,— have to daily drink 7 pounds of a fluid composed of:—764 grains of albumenoids, 392 of various salts, 2203 of sugar, 1764 of fatty matters, and 42877 grains of water; or in other words he would be forced to daily consume 1164 grains of fatty substances, and 1662 grains of water, in excess of what is really demanded or required for his nourishment.

That the milk of this species as well as of other animals has from primveal ages been used and valued both for food and other purposes is evident from the Biblical expression of "a land flowing with milk and honey," which is synonymous with wealth and plenty, as also from the historical facts that the Roman ladies used to make their complexions and skins fairer by rubbing their bodies over with bread soaked in asses milk, and in certain ailments of the system the physicians of the old world recommended the use of the milk of the cow, ewe, goat, or ass which they strenuously interdicted in cases of fever, headache and bilious attacks.

Still it is only during comparatively recent years that anything has been ascertained as to the chemical composition of milk, which, it is believed, derives *its distinctive* characters, during its passage through the mammary glands, but even here knowledge is in its infancy as no satisfactory explanation can be given as to *how* the milk sugar is formed or in what manner the fibrin and albumen of the *blood* are physically (if not chemically) converted into the casein, nuclein and serum-albumen of the *milk* or again as to the process by which new kinds of fatty acids spring up.

We do know however that those aliments are the most nutritious that contain a due proportion of the aqueous, the albuminous, the saccharine, the oleaginous and the saline principles of food and though an animal would soon die of starvation if *exclusively* fed upon sugar, or upon fat, or upon albumen, it will live and thrive upon a proper *mixture* of these different materials.

One of the examples of a mixture of this kind is afforded by milk in which the *aqueous* principles are represented by the constituent water; the *albuminous* or *azotised* by the albumen and its kindred companions casein, nuclein, lactoprotein and serum-albumen, which are very difficult to separate from each other; the *saccharine* by the milk sugar or lactose, which does not undergo alcoholic fermentation, which would compel it to emit gaseous compounds that would distend the tender stomachs and intestines of the young animals; the *oleaginous* by the milk fat, more commonly known as butter; and the *saline* by variable proportions of lime, magnesia, potash and soda in combinations with chlorine and phosphoric acid and, occasionally, a trace of oxide of iron. And the young animal living for some months of its existence, *exclusively* on such a mixture (milk) thrives and grows rapidly; but at the same time it must be borne in mind that as the azotised ingredients of *such* food undergo oxidation to supply the heat required to maintain the animal economy at its *normal* temperature this alimentary mixture *must* necessarily vary with the circumstances under which *that* animal and its offspring are placed.

Thus in the human species who protect themselves and their young from the inclemency of the seasons, by means of clothing &c., the milk, which consists of 10 parts of fat, 10 parts of plastic material, 20 of sugar & 0·6 of salts, is well adopted to the needs of the new born infant; whereas in the calf (for instance) which is not *so* protected aginst the weather the proportion of these materials are so changed (i.e., altered) that cows milk will contain 11·11 parts of fat, and 14 parts of sugar to every 10 parts of plastic material.

Although there may be considerable variety of detail depending upon the age, breed, species, health and food of the animal, the time which has elapsed since parturition, the number of pregnancies, the time at which the milk was drawn and many other circumstances, still the *general* composition

of the milk of the various species is set forth in the following table—

Kinds of Milk.	Milk fat or Butter.	Casein (*i.e.*, albuminates) and insoluble salts.	Sugar or lactose & soluble salts.	Water.
Ass's or Donkey's ...	1·40	1·70	6·40	90·50
Buffalo	6·21	4·97	5·99	82·83
Cow's — Bengalee ...	3·33	4·82	4·92	86·93
Cow's — Butter-milk of.	0·70	3·42	7·13	88·75
Cow's — English ...	3·70	4·55	5·35	86·40
Cow's — Fear-milk ...	8·31	3·08	4·82	83·81
Cow's — Force milk ...	0·20	4·25	5·45	90·10
Cow's — Skim-milk ...	1.80	4·00	6·20	88·00
Cow's — Vellore ...	3·55	3·64	5·51	87·30
Dog's	1·48	16·0	2·9	66·3
Ewe (*ie.*, Sheep) ...	6·50	8·00	4·50	82·00
Goat	4·10	4·50	5·80	86·60
Mare	0·20	1·62	8·75	89·33
Woman's — English ...	1·73	2·04	6·23	90·00
Woman's — French ...	2·14	2·03	5·21	90·62
Woman's — German ...	2·6	3·9	4·9	88·60
Woman's — Hindu ...	3·34	3·35	3·77	89·54
Woman's — Irish ...	4·02	3·52	4·55	87·91
Woman's — Madrassi ...	3·57	3·48	5·21	87·72
Woman's — Mahomedan.	2·88	2·07	3·68	91·33
Woman's — Negress ...	3·87	3·56	4·88	87·69
Woman's — Scotch ...	3·99	2·22	5·81	87·98

Thus *woman's* milk ls considerably poorer even though it contains,—on the average, more sugar—than that of the cow or goat and its specific gravity ranges from 1030 to 1034.

Mare's milk which is the basis of *koumiss*, yields an oily fat very rich in soluble acids, among which, butyric acid is not so prevalent as in the fat of cow's milk. Its density is from 1030 to 1035 and when allowed to undergo alcoholic fermentation it is converted into a sort of milk-wine or koumiss, (which has been recently used as a preventive and curative of phthisis) of 100 parts of which according to A. W. Blyth contain,—fat 0·68, lactose or milk sugar 6·60, salts 0·66, casein 2·84, carbonic acid 0·90, alcohol 1·00, and water 87·32.

Buffaloe's milk ranges from 1025 to 1032 in specific gravity and being richer than cow's milk in all its ingredients, especially the fat it is used for making most of the *ghee*, *butter*, tyre, butter-milk and chêna or curd consumed in India, but care should be taken not to let a milch buffalo wander, as she is a foul feeder that is particularly fond of eating horse droppings and when herbage is scarce she does not object to human ordure.

Goats' milk with a specific gravity of 1032 to 1036 is richer in all its ingredients than cow's milk, though it has a little less casein and sugar, and also contains hircine or hircic acid which sometimes gives it an unpleasant odor.

Dog's milk ranges from 1033 to 1036, and contains the most casein and fat, but the least sugar.

Sheep's milk is richer than cow's and exceeds goat's milk in casein, solids—specific gravity being from 1035 to 1041.

Ass's milk, which closely resembles woman's milk in composition and has a density of 1023 to 1035, is far inferior to other milks in casein and fats; but exceeds them in sweetness. It is a poor aliment, but is valuable for infants and invalids whose digestive powers are feeble.

Cow's milk ranges from 1023 to 1032, and in Europe especially is most generally used for human food. It is a wholesome and highly nutritious article—*if it can be obtained pure*—both for adults and children. In India the yield of each cow is rather small, and it is in such demand as a substitute for the natural food of the human infant, that unless the cow is milked in your presence you can *never* be sure of the purity of the milk, or of its freedom from admixture with other milks.

When circumstances render it is advisible for a mother to nurse her baby, or where a good healthy (human) wet-nurse is not available cow's milk affords the best substitute, and for a year at least should form the staple food of the infant who for the first seven months of its existence should be given nothing but cow's milk *properly* diluted, and after that age it may have starch in some digestible form (such as arrowroot, or corn-flour) added to the milk.

Now as cow's milk contains more casein and fat than does a woman's it becomes necessary to add a little sugar and dilute with a third to a half of its volume of *boiled* water, at a temperature of about 98 degrees Fahrenheit, and from 2 to 3 pints, or *at the most* 4 pounds of such a mixture should be given during every 24 hours (in smallish quantity,) at *regular* intervals, and at *stated* times; or, in other words *that* infants food for that 24 hours should consist of (in grains).

	Cow's milk mixed with one-third of its volume of water.	Cow's milk mixed with *half* its volume of water.
Butter fat ... grains ...	504	672
Casein and insoluble matter ,, ...	504	672
Lactose and soluble matter ,, ...	770	1027
Added sugar ... ,, ...	30	30
Total solid constituents ,, ...	1808	2401
,, Water ... ,, ...	26192	25699
Total ,, ...	28000	28000

If however the milk has already been dosed with half or one third of its volume of water *before* the "*gowala*" offerred it for sale it stands to reason that a fresh admixture in the nursery proportions (above stated) would considerably reduce that poor infant's nourishment, and we can understand how that poor little boy-baby I brought to your notice, was starved by being fed on only 452 or 400 grains of solid matter per diem, in place of the 1808 to 2401 grains that nature *demanded* for his growth and development.

Good cow's milk should have a yellowish or pale bluish-white color, which is due to the presence of oily matter(*i. e.* fat or butter globules) that the milk holds in suspension, its specific gravity ranges from 1024 to 1032 in India, and from 1026 to 1036 in Europe. Its taste is somewhat sweet and its odor slight, but agreeable and characteristic. There should be an absence of deposit, and no peculiarity in its odor or taste; while, whether boiled or not, it should not curdle or otherwise alter its appearance.

Watered milk.—Its reaction should be neutral or very nearly neutral, the slightest tendency to alkalinity shewing the added presence of soda, &c. The microscope should shew nothing beyond a *few* oil globules and a little epithelium; but if there is excess of either of these, or the presence of blood, pus-cells, lacteal-tubule-castes, starches, mineral crystals, vibriones or bacteria of any sort, *that* milk has either been adulterated or taken from a diseased cow. It should in India have not less than 11·5 per cent of solid matter, of which not less than 3·07 should be fat, while in Europe the solids should not fall below 12·81, nor the butter or fat below 3·15.

The great difficulty however in dealing with milk analysis and demanding a certain and definite standard of purity instead of the fluctuating one we are compelled to adopt, is the fact that in order to meet the altering wants of the young mammal in its successive stages of growth, the milk of the parent animal varies in an *important* manner, both in quantity and quality—during the different periods of lactation: such may be seen from the following detail of the analysis of the milk of a Bengalee cow during one and the same period of nursing.

	Age of calf in days.						
	30	60	75	150	180	210	303
lbs of milk given per diem	6·5	5·0	5·0	4·0	1·00	5·0	4·0
Casein per cent ...	5·50	4·30	5·76	4·30	4·30	5·40	4·02
Sugar per cent ...	3·98	4·40	4·10	4·37	4·10	3·86	4·37
Fat per cent ...	4·98	3·60	4·10	2·52	3·20	1·90	3·00
Combined Salts-per cent.	0·76	0·70	0·84	0·78	0·70	0·82	0·68
Total solids per cent ...	15·12	12·82	15·28	11·90	12 04	11·65	11·92
Water per cent ...	84·88	87·18	84·72	88·10	87·96	88·35	88·08

(*To be continued.*)

FEVER AND ITS RATIONAL TREATMENT.

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Fever is a subject which from its great importance both from its prevalence and the excessive mortality it occasions, merits the serious and anxious consideration of every medical man. If the study of fever and its treatment be approached with rational interpretations of, and inferences from, facts learnt in every day practice, and with recollections of the principles of physiology both normal and morbid, I feel sure that the profession will agree with me in condemning the prevailing use of the so-called antipyretics as not only irrational but positively harmful. In discussing the subject of fever and its treatment I shall first confine myself to general considerations only, and then take up in detail the treatment of a fever patient and the interesting subjects of so-called malarial and remittent fevers, or the fevers peculiar to the tropics. The simple question, What is fever? has to be faced at the very outset, and it demands a satisfactory answer; for on the answer depends the comprehension of the aim and practical application of rational therapeutics in fever cases. Fever is said to be a symptomatic or a special condition, or an entity according as it is styled secondary or symptomatic, and idiopathic, essential primary or specific, associated with, or rather inducing, altered respiration, circulation, excessive tissue change and waste, and a variety of nervous phenomena. But these associated or fever-caused phenomena are so variable and often so contradictory that it is difficult to arrive, with their help, at a proper and comprehensive understanding of the interesting and important subject of fever. Combustion of tissues—tissue change and waste—is regarded as the natural consquence of raised body heat. But there is no approach at uniformity of results, and degrees of heat are no measure of the tissue combustion and waste products, nor is the extent or amount of tissue combustion any measure of degrees of heat, in a given space of time. On the contrary, in many cases tissue combustion or consumption is attended with low degrees of heat, lower even than the normal body temperature. As will appear later, tissue combustion or consumption bears a constant ratio to quite other influences than those of simple degrees of heat of the body temperature, *vis.*, to nerve influences and blood reactions. Many cases of high fever occur in which both the force and the frequency of heart action bear contradictory ratios to the degrees of heat, and similarly respiration is not equally affected by equal degrees of heat. Nor is the nervous system upset in proportionate ratios by proportionate degrees of heat, showing that as a matter of fact, when grave nervous disturbance sets in in a fever case, it is a result of quite other influences than of simple degrees of heat. If indeed, only physical and chemical conditions formed the basis of degrees of heat of body temperature, then there ought to be at least some uniformity in the character and amount of work done by equal degrees of heat. Such, however, is not the case. Some physiological relationship between fever or raised body temperature and the nervous system has often been mentioned, but not defined, and mentioned perhaps, because in some cases of fever or raised body temperature there is so much obtrusive nerve connection with the rise in body heat.

Approaching the subject in the light of physiology both normal and morbid, a satisfactory answer to the question, What is fever, may be attempted in this wise: Physiology teaches us that the nervous system plays the chief rôle in the maintenance of the standard body temperature, and

governs the work of the vascular, glandular, and other systems which contribute towards the balancing of heat expenditure and heat production, so as to maintain the same uniform level in the organism, unaffected by, and irrespective of, the temperature conditions of the surroundings; and a heat, or rather, temperature centre is spoken of in connection with the central nervous system. But it is the property of the nerve cell not only to maintain an ordinary function by adjustment of the component factors, but also to show an exaggeration, or lowering, or even perversion of the whole function, or of any of its component factors at the instance of a change in its own chemical or physical state, or of influences reaching it along its nerve lines. So that a temperature manifestation, be it a rise or a fall, is as much the work of the temperature centre under abnormal, as is the maintenance of standard body temperature under normal conditions or influences. And clinically, we have several instances in which states of the central nervous system are directly associated with, and, as will appear later, concerned in the rise of the body temperature, as notably in hysteria and emotions, in tetanus and sunstroke. The central nervous system is the medium not only of adjustment of the organism to its environment, but also of intercommunication of the knowledge of the states of the various parts of the organism, and it places correlated parts or even the whole organism in sympathy, so to say, with any one of its organs when in distress, and thus provides a reflex manifestation, local or general. Correlated organs give their sympathetic reflex in altered function, and the general system responds through the nervous system by the altered function of one of its centres, the work of which affects the system generally,—*i.e.*, by a change in the work of the temperature centre, by a rise in body heat. Thus, then, fever is really a central reflex—a temperature reflex—of the temperature centre, at the instance of a change of state of the nervous system itself, or of the blood, or of other tissues or organs. Like all reflex curves, then, fever curve ought to be modified by states of, and the reactions on, the peripheral and central nervous system, and by the intensity and character of the exciting sources. One has only to recall to mind his clinical observations to see that there is a perfect correspondence between the conditions associated with the reflex of fever and those governing reflex action generally. As regards the central nervous system; the less balanced it is, the more exaggerated the reflex. In the development stage, *i. e.*, before the full stability and growth of the nervous system are establisbed, the reflexes are exaggerated, and just as we have convulsions in infants and children from slight causes, their fever reflex is also high compared to the fever reflex of the adult from similar causes. A little catarrh gives a fever reflex of 103° in a child and perhaps only 101° in an adult. Again when the resistance of the nervous system is lessened as in the hysterical and, in what are called, 'nervous' constitutions or temperaments, the fever reflex is higher than in ordinary individuals. And again when the nervous centres are dulled, as in cases of low vitality from old age or premature decay, the fever reflex is lower than in ordinary cases. Acute pneumonia in a healthy adult will give a higher fever reflex than it does in feeble constitutions.

The extent, character, and intensity of reaction influences on the temperature centre determining the curve of the fever reflex afford a very interesting study. The fundamental basis of every stimulus is change of state; and the intensity of a stimulus is to be measured as much by its bulk or quantity as by its character and suddenness. The reception of a stimulus depends on the degree of toleration and resistance power of tissues or organs. There may be sensitiveness, or, on the other hand, a feebleness of parts, often called irritable weakness. All peripheral reactions are modified by the degree of nervous element (sensory nerves) present in the affected organ or tissue, and thus tension comes to play the important part of a powerful irritant and reflex incitor. And clinically, we find that changes in the constitution of organs give fever reflexes which are modified by the extent of, and suddenness in, the change of state, by the importance, perhaps, of the affected organ, and by the character of its nerve-supply. Catarrhal (inflammatory) changes in the constitution of organs incite a fever reflex, and the fever curve is differently modified. The more sudden the change as from the normal to the abnormal—degrees of abnormal changes being less potent—the higher the fever curve; and the fever curve is both high and sharp in cases of catarrh of organs richly supplied with nerves, and in cases where tension is high. A small piece of lung in a heathly adult registers a higher fever curve from pneumonic catarrh than does lobar catarrh in lungs not previously healthy. Catarrh of the pleura which is richly studded with nerves registers a higher and sharper reflex than lung catarrh. Catarrh associated with tension will give higher and sharper fever curves than when tension plays little or no part. Cellulitis in regions in which the cellular tissue is allowed free expansion and does not suffer from tension will give low registers. The course and extent of the fever curve will be no doubt controlled by the course pursued by the catarrh. So long as active catarrh lasts, so long will the curve keep up, and the nature of the curve is determined by the course taken by the catarrhal (exudation) products. Resolution and repair let down the curve with a perpendicular. Witness the drop of temperature when simple inflammations of organs from the irritation of physical conditions of heat and cold or mechanical damage end in resolution. Should the catarrhal products break down and form pus, a second fever curve will begin. The pus collection reacts on the blood, and this chemical change in the blood induces rise of temperature which often begins with a rigor. To this blood reaction fever curve, the curve of tension from pus collection is added.

This leads us to consider the fever curves from the standpoint of the reaction on the temperature centre of altered blood states and the catarrhs they induce, external or internal or both, and there is no constitutional condition which at one time or another does not induce a fever reflex, either by the chemical reaction of the blood on the temperature centre, or by means of the peripheral catarrhal processes they incite. The

fever curves of most of these conditions are nothing but reflexes of the catarrhal processes that are set up and carried on by the different blood reactions. For instance, the fever curves in small-pox, typhoid fever, acute suppuartive tonsillitis, diphtheria, are the pointers of the catarrhal changes peculiar to them. The peculiar typhoid chart finds a ready explanation in the first or ascending ladder arrangement being the reflex of the progressive irritation of infiltration processes that occur in the Peyerian glands, the landing part of the curve being a reflex of continued irritation of suppuration and sloughing; and the down ladder represents the progress of the healing of the ulcers and the gradually diminishing irritation about them. Acute suppurative tonsillitis gives a similar chart, only not so extensive. In some cases the fever curves are reflexes of the blood reactions on the temperature centre, as in acute tuberculosis, and septicæmia. Then one sees clinicaly, instances of peripheral irritation under circumstances of a purely mechanical or physiological nature reacting on the temperature centre and giving fever reflexes. And these are the fever curves of pain from pressure or mechanical damage to the peripheral nerves, as in cases of tight stitches and tight bandaging. The rise of temperature during the first few hours after operations is another instance, and yet another is that of scyballa in the rectum sending up the temperature on the 3rd or 4th day after parturition. Constipation and scyballa in the rectum do not send up the temperature in these very *same* persons at other times. Yet another instance is that of catheter fever.

Thus then all fevers, no matter what their specific excitor, are symptomatic. Fever is not an *entity*, it is but a reflex of the heat-regulating or temperature centre at the instance of a variety of circumstances. It is a general symptom, with characteristic tracings or variations peculiar to the condition of which it is the symptom; and the so-called eruptive fevers and enteric fever are as much symptomatic of their peculiar blood reactions and the catarrhs they induce, as, for instance, the fever of septicæmia or the fever of pneumonia. The fevers of degeneration catarrhs of phthisis or diabetes (suppurative and sloughing cellulitis) are not more symptomatic because they represent chronic or degenerative catarrh. To control the fever curve, therefore, it is the catarrhs, *i.e.*, the physical changes of inflammation and breakdown which raise and keep up the temperature, that should be treated. Anti-phthisical and anti-diabetic treatment may be of use in preventing fresh catarrhal changes, but such catarrhal changes as have already occurred must be treated *per se*, if the temperature rise is to be subdued. The pus must be expectorated in phthisis, and even let out if possible, and the tension in diabetic cellulitis must be relieved and the broken down tissues removed by the knife. And now the answer to the question, What is fever? may be summed up thus:—Fever is a reflex of the temperature centre at the instance of conditions of the central nervous system, or influences going up the peripheral nerves, or of sudden change of state in organs or tissues, without primary blood reactions, or of primary blood reactions with or without catarrhal changes. *How* and *why* the particular conditions affect the temperature centre are problems wh ch need not detain us here. As practical physicians, it is enough for us to recognise the relationship of functions and reaction to particular conditions, and the times and circumstances under which they occur, without attempting an answer to the *how* and the *why* of such functions and reactions. Let us only recognise that fever is a reflex or reaction of the temperature centre and the symptom of disturbance in the whole organisms either at the instance of particular blood states or particular physical or physiological conditions of organs. On this basis a classification of the various fever conditions may be thus attempted:—

Class I.—Conditions of the central nervous system both physiological and physical,—in this group fall the fevers of the emotions, hysteria, mental strain, and general disturbance from operations; of sunstroke, delirium, cerebral compression from effusion, active or passive, tetanus, hydrophobia, chorea.

Class II.—Conditions of irritation of peripheral nerves,—and in this group fall the fevers of pain from constriction of, and pressure on parts; of tension; of scyballous accumulations and presence of worms, or of foreign lumps, like undigested lumps of curdled milk, in the alimentary canal, under particular circumstances and at particular times, catheter fever, and of catheterisation.

Class III.—Change of state of blood and of organs. And this class includes the fevers of the various catarrhs. Catarrhs from thermic and barometric influences on particular organs—the catarrhs or chills of sudden disturbances in the physical (thermic, electrical) conditions of organs—the disturbance being determined by the degree of tolerance and resisting power of the affected tissues or organs; fluctuations which will not affect in one case will readily do so in another,—the liability to, and the course of the catarrh being dependant on the original build of the individual,—these being the catarrhs from the irritation of physical conditions of the surroundings or from traumatism. And the fevers attendant on these catarrhs are the fevers of inflammations of organs, *e.g.*, pneumonia, pleurisy cystitits, typhlitis, simple enteritis (cases of which are often wrongly diagnosed and treated as cases of Bombay fever), meningitis, myelitis. Then come the great class of catarrhs, acute and chronic, and associated with altered blood reactions from conditions of soil, seasons, and surroundings,—from electrical, temperature, physical, chemical and organic conditions of the atmosphere, assisted by the personal conditions of the habits of life and of the original build of the individual. The acute catarrhs and blood reactions of this group comprise all the conditions known as the eruptive and acute specific fevers, *e. g.*, measles, small pox, scarletina, influenza, typhoid and typhus fever, acute suppurative tonsillitis, cerebro-spinal fever, acute tuberculosis, rheumatic fever, septicæmia, erysipelas, etc., and the enteric catarrhs known as Indian remittent and typho-malarial fevers. The chronic or degeneration catarrhs and blood reactions belonging to this group include phthisis, scrofulosis, diabetes, syphilis, and the so-called malaria..

Thus every case of the general reflex or symptom of fever falls within one or other of the conditions enumerated above, and fever is invariably a symptom, and not an entity. And the rational treatment of fever aims at an analysis of the symptom to treat the *source of the reflex*. Attempts at reduction of fever by acting on the temperature centre as by the class of antipyretics to be discussed presently, or by acting on the metabolism of the body, as by quinine, may avail for a while, *i.e.*, till their effects last, but are decidedly harmful. They only cover a while the processes going on which have reacted on the temperature centre and given the fever reflex. They do no more, as far as the fever itself is concerned than does a scented handkerchief held before the nose to cover the smell of the drains. The drain smell and the gas and organic effluvia which one inhales all the same do not fail to do rheir apportioned work on the system. Only the in-taking of the sewer poison is made agreeable by the scent freely used; but while the scent is innocuous the antipyretics and quinine in large doses are, unfortunately neither agreeable nor innocuous. Such treatment is not only wide off the mark, but is positively harmful and perfectly irrational, and is opposed to all principles of healthy and morbid physiology, and even to common sense. In dealing with the effects of rise of temperature on the organism generally and the methods of reacting upon them, attention will at first be drawn to general considerations only.

To avoid repetitions in speaking of the uses and actions of the antipyretics now in vogue, I would preface my remarks on the subject of the treatment of fever with a few observations regarding them based on clinical observations and experiments in the laboratory. I only regret that circumstances having abruptly stopped my laboratory work in the midst of my experiments, I cannot for the present, give the experiments themselves in full detail. The impoverishing action of the antipyretics—antipyrin, antifebrin, and phenacetin—on the blood, especially their destructive action on the red corpuscles, has been often referred to in medical literature. These three products have some common action—the intensity and rapidity of action being most pronounced in antipyrin, and in a lesser degree in antifebrin.

The results of laboratory experiments may be thus summed up. The reaction on the blood is principally directed against the red corpuscle; hæmoglobin is chemically altered, and at times, is readily drawn out, so to say, from the corpuscles. The blood is generally pale and shows less tendency to clot, and the clot is not firm. Under the microscope, one sees the proportion of the red corpuscles diminished, their deep tint and lustre faded, and their rouleaux tendency considerably lessened; the crenation and shrivelling occurring more rapidly than in health. As the blood from a frog dosed with antipyrin trickles down a test tube, its track shows a greenish tinge, and healthy blood mixed with antipyrin gives only a green liquid in which under the microscope no corpuscles are visible. There is progressive anæmia, as is best studied in the tongue, with antipyrin and phenacetin, and deepening cyanosis with antifebrin. After small doses, the movements are slow and sluggish, and the muscles feel flabby. The calves of the frog present a jelly bag appearance. No high jumps are possible, and he comes on his face, the fore limbs having lost their usual spring and tone. With large doses, there is rapid relaxation, and at times twitchings with convulsions with antifebrin and antipyrin. The least movement or exertion increases the prostration. Heart action is slowed, but the contractions are feebler and become irregular. Cut edges of the skin bleed freely, and there is marked subcuticular mottling with a tendency to petechiæ. Respirations become shallow and more frequent, and soon assume a jerky character. There are noticeable efforts at catching air with frequent gasps.

All these three drugs cause sweating with reduction of temprature, and collapse after respiratory distress is the invariable feature of large doses of the three antipyretics.

Some peculiar occurrences that are noticeable now and again are mucous hæmorrhages especially with phenacetin, and a tendency towards congestion of the lungs and to a less degree of the liver. And now may be mentioned the clinical analogues of the experimental observations. We all know the progressive anæmia of phenacetin and antipyrin, and the deepening cyanosis of antifebrin. Nor is the sudden blanching with struggling for air and collapse an unfamiliar phenomenon after a sharp dose of antipyrin. Muscular relaxation with inability at times even to turn or sit up in bed, and much prostration on little exertion after a few doses of antipyretics in fever cases are of equally common observation. The pulse though slowed is poor in volume, and the first sound of the heart is markedly wanting in muscular vigor. Secondary congestions of the lungs and the liver, commonly but erroneously called fever complications, supervene in not a few instances; and I have seen a case in which there was hæmatinuria which stopped with the stopping of phenacetin powders. There is sweating, no doubt, with temporary reduction of temperature even to a subnormal degree. But more often than not the temperature rises again, and, what is very important to note, the rise begins with a rigor and registers a higher degree than before the dose of the antipyretic. It is also not unusual to find that in many cases free dosing with antipyretics avails not against high temperatures and only induces pallor and prostration. And it is invariably the case that fever patients treated with antipyretics have a protracted convalescence and take long to regain their lost colour and tone. Now and again symptoms of cebrebral compression, *viz*, coma with loss of control over the bladder and the rectum and high temperature, usher death in some cases that have long been under the influence of antipyretics. The only pleasing, but a mere lulling, feature about the antipyretics that one sees, is that, under its influence a patient may have quiet hours with the fall of temperature, and neuro-muscular depression.

These experimental and clinical observations suggest a few simple inferences which require to be always borne in mind. The antipyretics impoverish the blood; they lower the quality of the circulating fluid and the vigour of circulation, and often

give rise to the evils of low forms of inflammation which are attendant on low states of the circulation; they reduce the firmness and force of muscles and depress the nervous centres generally, and with them the temperature centre. It is this deadening or benumbing influence on the nervous tissue that helps them to act as analgesics, and hypnotics. The blood change they induce has probably a great deal to do with the rigors that follow reductions of temperature, and it is, no doubt, a chemical state of the blood that produces the rigors of pus, septicæmia and ague fever. The marked anæmia and poisoning of blood naturally accounts for the great prostration and wasting and slow convalescence. The sense of suffocation with blanching of the skin which follows sharp and, at times, fatal doses of antipyrin is, no doubt, due to the sudden destruction of the red corpuscles and interference with the process of oxygenation. The progressive disappearance of fat and wasting of tissues are due to the slow poisoining of antipyretics. A dog was given moderate doses of antipyrin three times a day, and within a week he showed his rib lines and lost nearly a third of his body weight. And this fatal slow poisoining is not unfrequently found in cases in which antipyrin craving is established on account of its analgesic effects.

Enough has been said already to condemn altogether the use of these antipyretics in fever cases in which the blood and circulation and the tissues generally are apt to suffer to some extent from the effects of heat itself, and in a much greater degree from the blood reactions of many fever cases. But this will be self-evident as we proceed. The reason why the temperature rises after a brief lowering is not far to seek. The antipyretics depress the temperature centre and lower the body heat, the temperature remains low till their reaction lasts, the diaphoresis they induce having, no doubt, a share in the reducing of temperature. But they do not touch the *cause* or source of the rise of temperature, and are, moreover, powerful neuro-muscular depressants. That the guarding of the antipyretics with brandy and digitalis is all idle and ignorant talk will be apparent to any one who knows the actions of different reagents. As regards quinine, it may be just mentioned that in small doses of ½ to 2 grains it is a tonic and stomachic, but in large doses (10 to 30 grains), it is a gastro-intestinal irritant and neuro-muscular depressant, and that it is not rapidly eliminated, and has a cumulative action,—effects realised in every-day practice and avoided by rational physicians, but sadly and mischievously ignored by quinine enthusiasts.

Fever is a reflex, and like all reflexes it is greatly modified both in its intensity and its general effects by the state of the central nervous system. A temperature of 103° and 104° gives rise to no such general unrest in the poor and the savage races of mankind that it does in the civilized community, and in individuals with much cerebral activity or of excitable temperaments.

It has been already pointed out that, with undeveloped and unbalanced nervous systems as in children and hysterical persons, the fever curve is as high as it is uncertain and variable, and a part of the fever curve is controlled in many cases, no matter what the reflex be due to, by simple sedatives to the central nervous system like opiates and bromides for instance. We are all familiar with the natural antipyretic aid of rest and sleep in the so-called continued fever cases; and the ice-bag, hot-baths, and sponging or packing, warm or cold, all lower the temperature by their sedative influence on the nervous system, more than by mere abstraction of heat. Mothers and nurses know well how a warm bath will induce quiet sleep and lower the temperature in a sick child. In the treatment of fevers belonging to the conditions named in class I—*vis.*, conditions of irritation of the central nervous system—nothing else is required than general sedatives. After severe operations the Surgeon wards off the early fever with an opium pill. Cases of sun-stroke admitted into my wards had often large doses of antipyrin already given them when I saw them with temperatures of 104° and 105°. All that the antipyrin had done for the patients was to increase their prostration. An ice-douche on the head kept up for 10 minutes or longer invariably showed an immediate and steadily maintained lowering of the temperature, and within a few hours the body heat was normal. After the douche an ice-bag is kept on the head, and a dose of soda and bromide given, which brings on refreshing sleep, and the patients are discharged well within a day or two of their admission. Once I was asked to see a gentleman in a stupor and semi-conscious condition with high fever. It was a case of sun-stroke. All the antipyretics had been given during the day, but the fever had kept rising, till when I saw the patient at 10 p.m. it was 106° and a few points. An ice-douche was at once given and kept up for 15 minutes, when the patient regained consciousness and the temperature began to fall; with a dose of bromide he slept well, and woke up in the morning with normal temperature. Chorea with persistent high fever has been treated in my wards with a warm tub and an ice-douche followed by ice-bag on the head and persistent warm packing of the whole body, with good results. The muscular excitement abates and ceases, and the temperature falls steadily to normal. Illustrative cases need not, however, be multiplied. But there is just one condition of cerebral irritation which needs special notice. In cases of long continued illness and low states of the circulation with or without fever, and such as are not unfrequently induced by long continued use of antipyretics, there occurs at times a steady rise of temperature with loss of consciousness. This condition is due to passive effusion which low circulation favours. Blisteres are often applied with the one invariable result that the coma deepens and hurries the end. One might as well think of blistering legs œdematous from defects of circulation, central or peripheral to cause absorption of the effusion, or blister the head to promote absorption of passive effusions of low tensioned arterial circulation. And the unreasoning practice of blistering the head in cases of low cerebral excitement, *e. g.*, low muttering delirium—indications surely of exhaustion of the system and low and depressed circulation,—needs only to be mentioned to

be condemned. One has only to realize the actual condition to shrink back from such revolting practice. Physiology as well as common sense suggest that the fevers of hysteria and the emotions require simple sedatives and no antipyretics. The way the mercury dances up and down in hysterical patients ought of itself to suggest the worthlessness of antipyretics. Nay, they are harmful, for the poverty of blood and the depression of circulation and of the entire nervous system they induce, are just the reactions which will aggravate the original malady. What is required is general sedatives and tonics.

As regards the conditions mentioned in class II. little need be said, for if only proper inferences are drawn from one's own experience of how emesis, often by natural reaction induced, relives a patient and is followed by a fall in temperature, and how an enema will charm away high fevers in parturient women, in operation patients, and even in the so-called "continued" fever cases, (which are but simple or blood reaction bowel catarrhs) and how attention to rest, position, and comfort of parts to do away with any tension from position or tight bandages or stitches, will bring down fevers, it will be at once apparent that, fever and antipyretics ought never to be simultaneous or even consequential thoughts with rational physicians, as they certainly are not with rational surgeons.

The conditions mentioned in Class III. deserve careful study, and demand more reflection and judgement on the part of the physician ever ready to shoot down the fever with his antipyretic and antiseptic and all kinds of anti-ammunitions, for, as will presently appear, anxiety to shoot down fever and to prevent the running down of his patient by keeping him always on the go to do something for him, are as potent, of positive, often fatal, mischief, as a studied letting alone of the patient would do positive good. Let him but remember the one fact that fever is a result of any one of the conditions comprised in this class of fever cases,—that fever is a general symptom of catarrh and blood conditons, be it a catarrh of small-pox, or tyhpoid fever, or simple enteritis: and that, therefore, antipyretics or such other interferences are as much out of place and even harmful in any one of the akin conditions, as he was taught and has learnt from his own experience, to be the case in small-pox, for instance. In catarrhs from simple physical conditions without primary blood changes, *i.e.*, in inflammations from chills or traumatism, knowing that the fever curve is a symptom and entirely follows the physical changes, is it not irrational on the face of it to resort to any other treatment than the treatment of simple inflammation? Remembering again that simple inflammation is but a passing storm, and that the only thing one is called upon to see to is that the storm is well borne by the general system and does not leave any traces behind on the affected organ, it is but plain that the general natural indications are that the patient requires support, general rest and quiet,—quiet to the mind and quiet to the body, and quiet to all the organic functions, which naturally register low when there is a general disturbance,—and that the catarrh, if it could not be aborted, by reason of the situation of the affected organ or the previous state of the constitution, shall run a healthy course, *i.e.*, shall end in resolution. And the very early lessons that are learnt at the very threshold of one's study of physiology, normal and morbid, are that *resolution and repair* require the three essentials of rest, good and healthy blood, and good and healthy circulation; and that the very opposite conditions are answerable not only for retarding resolution and repair, and forcing on the catarrh an unhealthy course, but for actually inciting and keeping up low forms of catarrh. The surgeon ever keeping in his mind the truths learnt in his study of inflammation and degeneration—the very basis of all subsequent clinical study,—not only tries his very best to spare the blood and circulation by staying his hand from anything that may act injuriously on them, but actually does his best to better them so that resolution and repair may take a straight and unbroken course. A physician who treats symptomatic and the so-called "continued" fevers which are none the less symptomatic,—that is, cases of fevers of simple catarrh or catarrh with blood reactions,—with antipyretics of the tar products, or with his heroic doses of quinine to give chase to some lurking malaria which has a resting place more in his own fancy than in the patient's constitution, and who resorts to frequent down-pourings of his broths and essences and extracts, to prevent his patient being consumed by the raised body heat, as he fancies,—which essences and extracts, but putrify and resolve themselves into poisonous gases, liquids, and solids in the dirty gutter of the unhealthy slimy alimentary canal of fever patients—shows not only a most deplorable ignorance of the essential conditions of resolution and repair, but is guilty of neglect to save the blood and circulation, and of actually doing his best to poison the blood and depress the circulation by the powerful chemical poisons administered by him under the guise of antipyretics and engendered for him by the rotting essences and extracts.

The extent and progress of the fever curve depending, as it does on the catarrhal changes in the constitution of the affected organs, it is clear that if the physical changes could be controlled; the fever curve would be let down by preventing the catarrhal signs coming into existence, in the affected organs and that by simply controlling the catarrhal exudation. And there are different ways of doing it:—by acting upon the dilated blood vessels, (dilated from vaso-motor paralysis,) by means of cold, or by relieving their congestion by diverting the excess in the neighbouring and anastamosing channels, as by the moist warmth of poultices, or by counter-irritation or by a withdrawal of blood from them directly by the needle or the knife, or indirectly by leeching. An ice-bag on the knee will cut short acute synovitis, and similarly an ice-pack will let down the fever curve and control the catarrhal signs of pneumonia; only, it must be remembered that the ice-pack must be continued till the vaso-motor paralysis passes off and the vessels do not require the constringing and bracing influence of cold, for, if the cold application be discontinued too early, there will be greater reaction and relaxation

of the blood vessel and the catarrh will pursue an intenser course. Again the Chinese method of needling in hepatitis and direct withdrawal of a little blood will control the further progress of the catarrh and prevent suppuration. And often has the hypodermic syringe acted as the best antipyretic; it has not only dispelled the rigor and let down the fever curve as if by magic, but completely warded off the threatened suppuration. And similarly will an early inicision, when the parts are accessible, not only let down the fever curve, but by relief of tension, save the destruction of tissues which occurs when a catarrh takes on a suppurative character. Frequent and small doses of aconite and belladonna control a catarrh by counteracting the excitement of circulation and preliminary turgescence of parts, and often simple slight catarrhs, yield entirely to such treatment, as in simple tonsillitis. The fall of temperature is steady and keeps pace with the progressive relief of turgescence and tension afforded by aconite. Diaphoretics act similarly. Only the action of aconite is steady and sustained, and there are none of the sudden fluctuations which diaphoretics inflict on the mechanics of circulation. For this reason and by reason of its not producing any gastric irritation, aconite is often to be preferred to the nauseating diaphoretics. But it must be well understood that the time for, and limit to, the use of either aconite or diaphoretics are strictly confined to the stage of *active* turgescence and tension with vascular excitement, *i.e.*, when arterial tension is suddenly raised. They are no more wanted when vascular tension is low, nay they are harmful then.

Such seem to be the general principles governing the rational and successful treatment of the fevers of simple acute catarrhs. And what has been already said with regard to the treatment of the fever of simple catarrh without primary blood reactions, applies with yet greater force to the treatment of the fevers of catarrhs with blood reactions (poisoning) either of the acute inflammatory kind, as in the case of the so-called acute specific fevers and acute tuberculosis, or of the chronic degeneration type, as in progressive phthisis. The fever in these conditions also is a general symptom, and a symptom of blood poisoning and the catarrhs associated therewith. And it stands to reason that acute blood poisonings will run themselves out, and the only part that the physician is called upon to play is to support the patient during the blood storm and the catarrhal processes. The surgeon resorts to nothing but supporting treatment in cases of blood poisoning, and stays his hand from anything that would in any way lower the quality of the blood and the vigour of circulation. And though perhaps he may for the mental satisfaction of being in the society of the adherents of a fashionable creed, believe in the germ theory of disease and in the potency of the germs causing septicæmia and pyæmia or erysipelas, he thinks it prudent not to be chasing the germs in the test tubes of the human laboratory with his deadly "antis," that show such beautiful effect in his laboratory glass tubes, being afraid, especially, after so many sad experiences confirming his fears, lest the action of the deadly "antis" be not limited and confined by the live walls of the human test tubes to the brutes lurking or flourishing within them, as is so admirably and obligingly done for him by the dead impermeable glass walls of his laboratory test tubes! Is it not, then, incumbent on the physician not to meddle with his patient, and to be rational and human enough to stay his hand from poisoning the patient's blood by such detestable "antis" as the derivatives of tar products, and from doing the hacking and homicidal work of stunning the neuro-muscular system generally and the neuro-muscular apparatus of the heart, the very pump of life, with his false panacea of quinine on the pretence, or in the false belief of battling the germs with his heroic doses! Heroic thought and heroic work, indeed, to interpret a revolt and kicking of the system against quinine into a call for subduing and smothering it with dead weights of his so-called sheet anchor! Let the system have only a chance to get over the storm of acute blood poisoning and catarrhs, and the natural resilience of the tissues, the *vis medicatrix naturæ*, will establish the olden state of things again, without the so-called aid of the meddlesome physician. And as if there was not enough blood poisoning and wasting in chronic phthisis, the physician should add to it on the pretence of giving a few quiet hours with phenacetin or antipyrin! But these few quiet hours of the day often become the precursors of the eternal quiet of the grave. That the treatment of fever cases by phenacetin and quinine in alternation is positively harmful and altogether unjustifiable will occur to any one who bestows a thought on their physiological action. That such treatment is quite senseless will be apparent enough, if only the physician will give one moment's consideration to what he is required to do and what he is actually doing. Take, for instance, phthisis, or typhoid fever, and let it be granted for a moment that these fevers are due to some germs, and that these germs carry on their work till the the soil is exhausted, as is said, and that they become encapsuled in spores, or burst out big and ready for work according to the stages of their developement. And rational treatment could suggest but three courses, 1, kill the germ and abort the fever straightway. 2, neutralize their poisonous products by chemical reagents, or 3, allow the germs their play and their full pabulum out of the system, and see that the patient's strength and vitality are sustained whilst certain constituents of his blood are being sucked up by the germs, which quit the patient so soon as there is nothing more for them to suck out of the patient's blood; and of course, the blood sucking process may go on for years as in phthisis or malaria. It is clear that the physician who treats his germ fevers with phenactin and quinine is sadly ignorant of the fact that neither phenacetin nor quinine is a universal germ killer or chemical antidote to germ products, and that antipyretics and heroic doses of quinine are the very reverse of tonics or stimulants, or sustainers of organic vitality. The fever chart he prepares ought to show him that he is treating a 'phenacetin and quinine fever,' for, no fever, even germ-caused fever—gives the mercury such up and down slides. And when he knows that the duration of fevers is measured by weeks, why all this hurry to reduce the temperature, and

what can be the meaning of this temporary reduction of temperature by phenacetin and the attempts—unsuccesful attempts—to prevent its subsequent rise by quinine? "Oh! but we must prevent even for a short while the tissue waste and burning down of the system that is carried on by high degrees of heat!" But are there not other and more rational and healthy methods of reducing body temperature? And indeed, one has only to reflect on the clinical facts daily observed in one's practice to be satisfied that a simple rise in the body heat though it increases to some extent tissue waste, certainly does not burn down or eat up the constitution as some of the blood degenerations of which fever is but a symptom. Just think of acute tuberculosis. Within a week the body is reduced to a skeleton, even though the temperature does not rage so very high. If it were the mere raising of body temperature or the physical condition of heat that induces such rapid combustion of tissues and general prostration, fever with equal duration and degrees of heat ought to work out in all cases even results, or at any rate approximately equal results, as regards tissue combustion. Only it does not, and the combustion and wasting of tissues with general prostration is to be accounted for more by the character and intensity of blood reaction and degeneration than by degrees of fever heat, and here the physician may again be reminded that the wasting and prostration which occur after his doses of phenacetin or antipyrin, despite the reduction in body heat they effect, are a sure index of the blood degenerations they induce. Moreover the wasting which accompanies a rise in body heat is more relative than absolute; with a general disturbance of the system as reflected in the symptom fever, all the powers of the system, *viz.*, the digestive, the absorptive, the assimilative, and the building or formative, powers register low. With defective digestion, absorption and assimilation, waste products are increased, and the building or formative power doing little or no work, the body shows wasting which is more relative than absolute.

And this leads us to the question of feeding fever patients. It is a well known truism that whatever is received is received in proportion to the condition of the recipient. We have learnt in physiology that the diet of hard work is not the diet of ordinary labour, and that the diet of ordinary labour is not the diet of no work, and the diet of no work is not the diet of rest in bed; the supplies must be proportionate to the want. The overabundant feeding or rather stuffing of fever patients that is carried on by kind friends and encouraged and enjoined by erring physicians, is most irrational and highly injurions, for it overtaxes suffering powers, and chokes the tissues with excessive waste products. Those who imagine that they can practise this stuffing with advantage by making use of digestants, only forget that they have no influence over, nor can they help or substitute the absorptive, assimilative, and building or formative powers, which work away with an accumulated store of, so to say, unused energy, and make healthy convalecsents weigh more and look much better than what they did before their illness, so soon as the general disturbance has ceased and the storm has blown over. And it may be here mentioned that those who stuff their patients with Brands' and other meat extracts not only violate the rules of supply and demand just referrred to, but break every one of the commandments laid down by Mr. Brand and his brother patentees for obtaining a maximum of benefit from their mannfactures. The commandments are:—put the pot in a cool place, keep it in a clean place, and once the pot is opened, let it be emptied as soon as possible, or it will—stink! And verily the unreasonable stuffing of fever patients with these readily putrescible products which are thrown (against the manufacturer's commandments) into the dirty and hot drains of the patient's alimentary canal does confer a horrible stink on the breath and stools of the patients; nay more, the stink and the poisonous gases that they generate in the drain of the alimentary canal enter the blood and produce the exhaustion, stupor, and progressive wasting which one observes in such stuffed subjects. Let the older members of the profession calmly reflect on the pictures they used to see of patients treated with the simple diaphoretics and the simple and very moderate fare perhaps, starvation fare, according to the ruling passion of the day, and I have not the slightest hesitation in saying that they will exclaim: What skeletons and pale ghosts these antipyretics and stuffing processes make of our fever patients, and what a large, and appallingly large number of them are sent on to join the majority! and where was the run for ether and digitalis solutions and hypodermic syringes during the first and second week of fever that now there is after antipyrin or phenacetin doses!" The homeopaths succeed marvellously in the fever of acute catarrhs for the one and the sole reason that they really carry out that grand principle of treatment, *vis*,. 'do nothing' and 'let alone' for their powerful dilutions and drops exercise and spend their potent influence more on their own fancy than on the physical condition of their patients.

I trust that it has been made sufficiently clear that the present day treatment of fevers by antipyretics of the tar products and heroic doses of quinine with blind stuffings with extracts and extractives is irriational, injurious and altogether unjustifiable. Humanity and the honor of the profession alike demand that no conscientious physician should stoop to use such dreadful blood-destroyers and constitution-shatterers, just because his less scrupulous or more ignorant neighbour prescribes them, to snatch his patient and keep an hold over him by pleasing him with the false breaks in his fever which the antipyretics give.

A Mirror of Practice.

A CASE OF DROPSY OF THE AMNION.

By Naresh Chandra Mittra, M.A., M.B.,
Charitable Dispensary, Ranchi.

One morning I was called to attend a case of labour. The patient had had pains for about 36 hours. Waters escaped

early the same morning, but there was very little progress in the labour. It was at 10 a.m., that I called to see her, but was informed that she had been delivered of a still-born child just a few minutes prior to my visit. The skin of the child showed signs of prolonged immersion in some hot fluid, and immediately following the fœtus the placenta came away, and with it flowed out a large quantity of fluid, hot enough to scald one's hand. The quantity of fluid might be roughly estimated at 3 to 4 gallons. There was scarcely any discharge of blood after the expulsion of the placenta. On enquiring from the patient's husband I learnt that she was the mother of two healthy children, but in two successive pregnancies following there had been a like discharge of hot fluid immediately after the expulsion of the placenta; in one of these she aborted, while the other was at its full term.

On the third day after delivery she had an attack of fever accompanied with pain over the abdomen. The discharge was scanty. She was very weak from previous ill-health and the pulse was thready and soft. Stimulants had to be commenced from the very beginning. She was rather constipated, so a soap and water enema had to be given to clear out the bowels. The whole of the abdominal wall was painted over with *extract belladonna and glycerine*, and a linseed meal poultice applied over that; she gradually grew worse, with typhoid symptoms as low mattering delirium, small thready pulse, and great prostration. The greatest difficulty was to feed her. Indeed, nourishment in such cases stands in good stead. Soup and brandy were continued at frequent intervals. She complained of a burning sensation of the most acute nature over the right side of the abdomen at a site which she the thought to have been in contact with the head of the fœtus. The symptoms changed from bad to worse, and she succumbed a fortnight later.

Remarks.—This case calls for some remarks, the chief of which concerns the diagnosis of the case. I have never come across any similar case in text-books or in practice, in which a discharge of hot fluid follows expulsion of the placenta. The birth of still-born children in three successive pregnancies followed by discharge of large quantities of fluid makes one diagnose such cases as due to dropsy of the amnion; but how far I have been correct will appear to the readers from a critical perusal and study of the case. The patient had all along been in a weak state of health, but she never had œdema of the lower extremities. The subsequent illness which ended fatally was no doubt of the nature of peritonitis.

A CASE OF CARBUNCLE.

By Amrita Lal Mandal,
Civil Hospital Assistant, Palamow.

On the 31st October 1893, the local Court Sub-Inspector, aged 29 years, came to me with the symptoms of a boil on the upper third of the back, about the right shoulder, resembling a small irritable pustule. I advised him to apply a strong solution of argenti nitras, about 30 grains to one ounce of distilled water, three times a day. Four days after he again showed me the pustule, telling me that he had not derived any benefit by the application of the caustic lotion and complained of a heavy, stinging pain on the spot, when I examined it thoroughly. I then remarked that it had assumed a larger size than which I saw 4 days before; it now contained a large quantity of slough in proportion to the small amount of purulent discharge; and had a tendency to spread. Besides all these I remarked that it was discharging and sloughing at one part whilst it was spreading rapidly at another. With these characterestic symptoms, I arrived at the conclusion, though with hesitation that it was a Carbuncle. To verify my diagnosis I advised my patient to show himself to the local Civil Medical Officer, who examined it and diagnosed it to be a Carbuncle. The patient's urine was examined by me, its specific gravity was 1022, and there was a trace of sugar. On the same day a crucial incision was made, and the subsequent treatment consisted of hydrarg: perchlorid: lotion (gr iv to Oj), iodoform and bandage. He was given steel mixture internally. Is now quite well.

Remarks:—We should bear in mind that without a correct diagnosis we can never cure any disease. Whatever case we undertake, it is our first duty to diagnose it, and then to treat it accordingly, otherwise all our efforts will prove fruitless.

POISONING BY HYDROCHLORIC ACID: RECOVERY.

By J. C. Day, M.B.
Assam.

I was called to see a man named Jewatha Singh, who had by mistake taken an ounce and a half of hydrochloric acid, apparently in one gulp, as there appeared to be no corrosion of the mucous membrane of the mouth or fauces. He was given by a neighbouring practitioner by way of antidote, before my arrival, a teaspoonful and a half of bicarbonate of soda and a bottle of soda-water. On my arrival I immediately gave him a large cupful of solution of carbonate of sodium, which was very soon rejected with a large quantity of coffee-ground-like matter. The patient was then surrounded with hot-water bottles, and was directed to have milk alone as nourishment. Subsequently the temperature rose to 102 deg.; pulse, 100 to 108. The epithelium of the tongue became quite leathery in appearance; and this cleared off in a few days. There was complaint of great pain opposite the pyloric orifice of the stomach, and of general tenderness all over the abdomen. Opium was freely given for sleeplessness, and turpentine stupes were placed over the whole abdomen. A little diarrhœa of irritation set in. The inflammatory danger over, convalescence was uninterrupted save by a little cough, which succumbed to an ordinary mixture.

Remarks.—With reference to this case, on the evidence which it gives of the low corrosive power of hydrochloric acid; on the entire absence of mouth-signs to aid the Physician in diagnosis, which might happen in a case where no information could be had as to the poison taken, the only means to guide in a diagnosis are the state of the patient, the history, and surroundings.

Our Portrait Gallery.

INDIAN MEDICAL CELEBRITIES.

By Surgeon-Captain B. D. Basu, I.M.S.

IV. Rai Bahadur Kanny Lall Dey, G.M.C.B., F.C.S., C.I.E., etc., etc.

Of the many graduates turned out by the Medical College of Calcutta in the pre-university era, no one is so widely known, not only in this country, but throughout the scientific world, as the one whose name heads this sketch. Kanny Lall Dey was born on the 24th of September 1831. He received his education at the hands of those early pioneers of medical education in Bengal who were connected with organizing the Calcutta Medical College. After being the proud possessor of the College Diploma, he entered the service as a Sub-Assistant-Surgeon in the Bengal Medical Establishment in 1854, after which he was appointed to a Professorship of Chemistry in the Calcutta Medical College, and a Chemical Examiner to Government. In 1862 he was appointed Professor of Chemistry in the Presidency College under the University of Calcutta, and from that time his honors—professional, scientific, and others, have been exceedingly numerous. He soon directed his attention to the study of the indigenous drugs of this country, as well as of chemistry. He was appointed successively Ordinary Member, British Medical Association, 1863; Honorary Member, Pharmaceutical Society, Great Britain, 1863; Additional Chemical Examiner to Government, 1867-'72; Teacher of Chemistry and Medical Jurisprudence to the vernacular classes, Calcutta Medical College, 1869-'84; Fellow of the University of Calcutta, 1870; Member, Faculty of Medicine, University of Calcutta, 1871; Rai Bahadur, 1872; Justice of the Peace, 1872; Member, Committee of the Economic Museum, 1874; Professor of Chemistry, and Government Chemical Examiner, Calcutta Medical College, 1877-'78; Municipal Commissioner, 1877-'85; Member, Central Committee for the selection of the vernacular text-books, 1877; received certificate of Honor in recognition of services to the State on the occasion of Her Majesty's assumption of the Imperial title; appointed examiner of Medical Jurisprudence, 1878; Fellow, Chemical Society (F.C.S.), London, 1880; Vice-President of the Calcutta Medical Society, 1881; Presidency Magistrate for Calcutta, 1881; Member of the Committee and Juror at the Calcutta Exhibition of Indian Arts, Manufactures, etc. 1881-'82; Juror of the Jeypore Exhibition, 1883; also Calcutta International Exhibition, 1883-'84; created Companion of the Most Eminent Order of the Indian Empire, 1884; appointed Member of the Syndicate, Calcutta University, 1886 and Honorary Fellow, College of Physicians, Philadelphia, 1886. He helped materially to develop the drug resources of India. In the second International Exhibition held in London in 1862, he was awarded a gold medal for his collection of the drugs of this country, which was by far the best and the most complete in that Exhibition. He was induced by the then Inspector General of the Civil Dispensaries of Bengal, to revise and publish in book form his Catalogue of the drugs he exhibited. This work was published in 1867, and is an authoritative one on the subject of indigenous drugs. His researches in the subject of indigenous Indian drugs have been highly valued and appreciated by all the leading pharmacists of the scientific world.

He represented India at the International Exhibition, London, 1862; Universal Exposition of Paris, 1867 and 1878; Vienna Universal Exhibition, 1872; Melbourne Exhibition, 1880; Amsterdam Exhibition, 1883; World's Industrial Cotton Centennial Exposition, New Orleans, U.S.A., 1884-'85; and Colonial and Indian Exhibition, 1886; for which he received certificates and medals, and also the thanks of Government.

On the occasion of the visit of H. R. H. The Duke of Edinburgh, his chemical experiments were greatly admired by all who witnessed them.

The Pharmacopœia of India contains many valuable contributions on the therapeutical uses of Indian indigenous drugs from his pen. The Pharmaceutical Society of Great Britain and Ireland has conferred on him the distinction of an Honorary Membership. The number of their respective Memberships is limited to fifty only, and includes some of the most renowned chemists and scientists in the world and his countrymen may well be proud of the distinction conferred on one of them. He is the first and only native of India who has won the Honorary Membership of the Pharmaceutical Society. He was the only native of India who received an invitation from the President of the Pharmaceutical Society of London to attend the International Pharmaceutical and Medical Congress, held in London on the 29th of July 1881.

He contributed a great number of most interesting, novel and valuable facts illustrative of Indian Toxicology and Medical Jurisprudence in Dr. Norman Chevers' Medical Jurisprudence. Dr. Chevers was the Principal of the Medical College, Calcutta, and acknowledged Dr. Kanny Lall's work in very high terms, both in the preface of his work and elsewhere in its pages. Dr. Kanny Lall Dey is the Author of several treatises on Chemistry, Physics, and Medical Jurisprudence in Bengali. He was teacher of Chemistry and Medical Jurisprudence in the Campbell Medical School at Sealdah for a number of years.

He helped Dr. Mahendra Lal Sirkar very considerably in establishing the Indian Association for the Cultivation of Science.

In recognition of the valuable services rendered to the Government, and also in recognition of his professional and scientific attainments, he was created a Companion of the Indian Empire in 1884. With the exception of Dr. Mahendra Lal Sirkar, he is the only Indian medical practitioner who has obtained this high distinction.

This brief sketch cannot be better concluded than by reproducing the very flattering terms in which the late lamented Dr. D. B. Smith, Principal of the Calcutta Medical College, referred to the scientific attainments and personal qulifications of Dr. Kanny Lall Dey, when presenting him with the *sunnud* of Rai Bahadoor.

"Your services in the cause of medical science have been both interesting and important. Your knowledge of Chemistry and your power of imparting such knowledge to others must in itself have been productive of much good. Your published writings on the Materia Medica of India are of real practical value. Your labours in this respect have been highly praised by no less an authority than Dr. Waring, whose work on therapeutics is, or ought to be, well known to all the senior students here present. Your collections of indigenous drugs and of Indian pharmaceutical preparatioas were received with marked approval at the London International Exhibiton of 1862; and at the Universal Exposition of Paris, 1867. At the latter, you received one medal, and two at the former. You also received a Medal at the Agra Exhibition in 1866.

"The kind and ready spirit with which you have on many occasions pleased and instructed large public audiences with chemical experiments and demonstrations, is well known and appreciated in Calcutta; whilst the worthiness of your character, your merit and ability, and your unaffected love of science have made you the personal friend of a large number of European gentlemen residing in this city, and in different parts of India. Having myself had the pleasure of knowing you for more than eight years, I have had numerous opportunities of observing that you are an earnest scientific observer, and a genuine lover of useful work;—that kind of diligent, conscientious, well-regulated work, which makes a College like this a sanctuary of labour;—work in the cause of true, practical science, which is, in my opinion, the real foundation of sound philosophy,—that philosophy from the sling of which, a pebble, however small, being cast, is capable of bringing down giant false systems of thought prostrate, with their faces to the ground".

K Ramaswamy

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The Medical Reporter.

CALCUTTA. DECEMBER 1st, 1893.

IN a recent issue we drew prominent attention to the arbitrary and reprehensible action of the Surgeon-General of Bombay in recommending the abolition of the Chair of clinical medicine in the Grant Medical College, by which one of the few public appointments open to unofficial medical men in Bombay was abolished. The "unofficial" who occupied the chair referred to above was a practitioner of some eminence in Bombay, and had held the Professorship for several years. The appointment was founded and endowed by the liberality of the Gaekwar of Baroda, and if we mistake not, it had always been occupied by a private medical gentleman. But the appointment was under the administrative control of the chief medical officer of the local government, and in virtue of the exercise of that control, the present Surgeon-General of Bombay has perpetrated a grave scandal by recomending its abolition. Action similar to that just taken by that official was suggested by an equally illiberal predecessor in office so far back as 1867, but the then Professors of the College, though members of the very service for which the appointments in the College were sought to be reserved, true to the instincts of the liberal profession of which they were members, strongly protested against the attempt, and recorded their opinion that the Professorships of the institution should be open not only to the members of the service, but to the whole profession. As in the Civil Service, the good old Haileybury gentlemen have given place to a class of officials who, as a rule, are not only self-seeking, but possess no sympathy with non-officialdom, and miss no opportunity to pretend a contempt for even superior men outside their exclusive ring, so in the medical service we now have officials—we gladly admit that there are noble though rare exceptions—who unlike their predecessors are jealous of the recognition of superior non-official members of the profession. With them the interests of the profession and medical education in its several branches are nothing, so long as all higher appointments are reserved for themselves or members of the covenanted ring. In Calcutta and in Bombay—we can speak with no authority of Madras—there are private practitioners who have been educated in the very same Colleges as covenanted officers of the profession, who have passed more distinguished collegiate careers, and in their after private practice have displayed a loftier appreciation of the demands of the profession, and an ability to exercise their acquirements, far superior to the mediocrity of men, who more by interest than by sterling worth, have risen to the higher appointments of the service.

To us it seems that the grave scandal just enacted in Bombay will in the end result in advantage to the great body of private medical practitioners in this country—that is if an united agitation is persistently carried on in regard to it. In Bombay, this flagrant misuse of administrative control has attracted public attention, and if non-official members of the profession throughout the country would but combine in some practical scheme for the assertion of their claim to recognition by Government, then the injustice just perpetrated in Bombay may yet, nay will, prove the stepping-stone to a larger sphere of usefulness for the ever widening circle of qualified private medical practitioners in this country. But the action taken must be prompt, united, and definite; and repeated in no uncertain notes, else it will fail. Local Self-Government may in the future achieve much for the private medical practitioner. In Calcutta it has scored a splendid triumph. Until Dr. Simpson was selected for the Health Officership of the local municipality the appointment was as a rule held by an officer of the "covenanted" service. The result of the change; the appointment of a gentleman who had specially devoted his abilities to sanitary science and was not like Holloway's pills an all-curer, and an all-knower, has raised Calcutta from one of the most insanitary cities in the world to one of the healthiest. There are specialists, and distinguished specialists in this country, in every branch of the profession outside the official circle, whose services could be utilized with considerable advantage by Government—men whose ability in any other country in the civilized world would be recognised and utilized—and yet the narrow-minded policy of a conservative ring hinders their usefulness here. That this is a scandal and a reproach to those responsible for it, admits of no question.

We note that at the meeting of the Provincial Coference just concluded at Bombay, a resolution was passed in which a plea for reform in medical appointments in this country was embodied. Dr. K. N. Bhadurjee of Bombay submitted the following motion:—"That this conference is of opinion that the time has arrived when, in the interests of public medical education and the advancement of medical science and of scientific work in this country, as also in the cause of economic administration, the existing rules of the medical service, reserving all high-grade appointments in the Civil Medical Department, including the professorial chairs at the Presidency College, for members of the Commissioned Military Medical Service, ought to be modified so as to throw them open to members of the medical profession generally, and indigenous medical ability in particular, thus utilising talent wherever available and materially reducing the cost of administration without impairing its efficiency.

That the President of this Conference be authorised to submit a memorial to the Secretary of State for India, through the local Government, on the lines of the above resolution." Dr. Bhadurjee, in proposing the resolution, said that they were not there to air personal grievances nor to condemn any acts of injustice or wrong done by Government in individual cases. The Grant Medical College was not founded for any "Governmental or executive wants," but to promote the diffusion of knowledge and the increase of happiness throughout India. Evidently, then, the Indian Medical Service helped Government to carry out their lofty principles of humanity and good government, and not that they helped Government to found the college for themselves or as an appanage to their service. In fact, when in 1867 an order of the Government of India, *viz.*, that professional appointments were to be give to members of the Indian Medical Service without regard to their scientific claims, the then professors of the College, though members of the very service for which the appointments were sought to be reserved, true to the instincts of the liberal profession of which they were members, strongly protested against the orders, and recorded that the professorships should be open, not only to members of the services, but to the whole profession; they knew well that the interests of science and education stood supreme and could not in any way be subordinate to the interests of any class or service. Science and education did not stoop to make a choice of the hands and heads that worked for their advancement on any other basis than that of capacity or fitness. But somehow or other in spite of protest from the respected members of the service itself, the high grade and other appointments in the department got "docked" into the covenant of the Indian Medical Service,—a fatality which, strange to say, was actually prophesied by the prophetic mind of Dr. Morehead. And what had been the results of such fatality? Whilst the local Universities had furnished Professors and High Court Judges and Executive Engineers in the different Faculties, the Medical Faculty could boast of no higher productions than Assistant-Surgeons—worth not more than Rs. 100 to Rs. 250 per month at the most! whilst their more fortunate colleagues who could afford to pay a passage and sit in the London Examination Room were to begin on four times the commencing, and rise to ten times the maximum, salary of the Assistant-Surgeons, who were to remain Assistant-Surgeons all their lives. The proposition aimed at what was really a natural disposition of things, *i e.*, a disposition in accordance with the needs and requirements of the several conditions of the progressive times of the present generation. Education, science, the profession, would all profit thereby. Nay, even the military requirements would be in accordance with the true wants of the army. The Secretary of State for War objected to the Army Medical Officers being put on civil duty for any length of time, on the ground of its militating against the efficiency, discipline, *esprit de corps*, and the very intentions of the Army Service. If then, the Indian Medical Service were strictly confined to its own legitimate spheres, the efficiency of the Indian Army, which was of no less moment than that of the British troops, would be secured. The prizes of the professorships and other State appointments requiring special training, would draw experts with greater certainty than now, for a very simple reason. It was frankly confessed to him by a colleague of his in London, that he did not go in for the Indian Medical Service, for he was not sure of his ever being allowed to work at his speciality, for all went by favour and influence, and not by merit, in the services, and, moreover, by the time he might have to wait in order to get the particular post, he would have acquired knowledge and experience and habits not wanted for his scientific subject! So that the prizes would be as much open to Englishmen in the open race as they were in their own and other countries. The gain to the people of India would be immense. They would have specialists and scientists of their own, and in course of time from their own countrymen whose knowledge and experience would remain in India for the good of the people, and would not be lost to them, as was now the case, by its being carried away on retirement of Indian Medical Service men. Then the proposition commended itself to all on the score of its aiming at economy, and great economy, without any loss in efficiency.

Dr. Bhalchandra, in seconding the motion, said the question was a very important one and as Dr. Bhadurjee had distinctly told them, it was not from a personal point of view that he had come before them to appeal to their feelings. It was in no sense a personal question, and it was not by the airing of any personal grievance nor by attacking the administrative body or the functions of the Medical Department, that the existing state of things would be improved. Native talent has been dwarfed by the very pernicious operation of the present rules, which were brought into effect in spite of the persistent opposition of the body of men who first gave rise to medical education in this Province. It has been asked why the medical profession had not got a Mehta, a Ranade, or a Telang in its ranks? The reply was simply that the service was so constituted that is was impossible for any man to rise above a certain point. It was in reality professional jealousy that had placed them in the awkward position in which they found themselves. (Cries of "Shame, Shame!") The result of the work during the last half century since the commencement of medical education in the Western Presidency had been to a great extent satisfactory, and in spite of the barriers placed against the advancement of local talent, there had been instances of students filling in a brilliant manner the posts of Professors in the Grant Medical College; but if those barriers were removed the rising talent would have the chance of coming to the front as it deserved to have, and the result would be satisfactory to the people and Government alike.

Dr. Solomon having supported the motion, it was agreed to.

With these sentiments we entirely concur, and we feel assured that the sympathy of every non-official medical gentleman in India, and elsewhere, will be with the conference. We hope to recur to this subject in a subsequent issue.

The question of what miracles define or show, opens up a wide field for investigation, too wide for the limited space of an article; therefore, we purpose to deal only with the subject of miracles of physical healing—the restoring of the human body, from incapability and inertia, to capability and strength. Are such restorations unnatural?

We have records of physical healing which carries us back thousands of years, and these relations of wonderful cures follow each other through the centuries to our own day; miracles of healing have not ceased even yet. In the Bible we have the most marvellous relations of instantaneous healing and of the dead being raised; have the modern revelations of medical science discredited these statements or shown them to be impossible, unnatural? No! far from it! The advances which the science of medicine has made in recent times have served to establish the possibility of miracles of physical healing. If possible now, why should they not have happened in olden days. If science can show no reason why this should not have been, then the records of miraculous physical healing related in the Bible cannot but be true; we are shut up to this conclusion.

The modern researches of science show us the close relationship existing between the mental and physical powers of that wonderful being called man, we are taught how wonderfully mental emotions govern the body, expediting or retarding its recovery when sick, and we are carried into the wide field of investigation relating to mental suppositions or suggestions, and their marvellous effects on the human body to faith healing. Mesmerism, hypnotism, have much to disclose in this connection—specialists in psycho-physics are very sanguine of the future, all over Europe and America we have records of undoubted instances of faith cure. Every family physician can record instances of faith cure, that is, faith, the implied trust and confidence of his patient in him, of being cured by him; no other doctor could do this he thinks and this faith in his doctor, probably does him more good, than that doctor's medicine. Many a physician has stood beside bedsides, battling with disease, when the hour comes, that he knows he has been worsted, though for the sake of others he probably will not confess it, but continue to maintain the unequal struggle to the last. Sometimes, however, when the physician has lost all hope, a wonderful unaccountable change occurs, the patient begins to rally, and thenceforward advances by stages extremely slow, or more rapid to recovery.

The most remarkable, instances of faith cures of recent times that we know of are those asserted to happen (and we believe on good authority), at the shrine of Lourdes; so remarkable are these cures, that the whole of Europe was stirred to excitement, not very long ago, by the striking cases reported to have occurred there. Thousands of pilgrims still resort to Lourdes, and those who go there with an absolute belief of being healed are healed according to the principle, which the psycho-physicist is beginning to understand, of the marvellous power mind has over matter, psycho-physiology explains these miracles, as psycho-phisiology explains the miracles of healing narrated in the Bible; except those which relate to the raising of the dead. To accept these as true we have to exercise simple faith; yet we are not at all disposed to dispute them; we think it would not be reasonable to do so (we are writing outside the consideration of spiritual influences, outside the consideration of the power of God), because, our present acquaintance with psycho-physical laws are limited, we know so little of the subtle links which unite soul and body, of the subtle influences whereby mind dominates matter, and makes the body subject to it; therefore, we must wait for more light, wait till our knowledge of the subject is greater, then it may be that we shall discover a psycho-physical principle, or obtain an inkling of such a principle, governing the raising of the dead to life, At present wisdom is shown, we think, in accepting as true the narrations of the dead being raised to life rather than rejecting them in toto, as some thoughtless people do; science has already shown the miracles of healing to have been possible on the principles of faith-cure, and scientists adopting the principle now show wonderful cases; science may yet show a principle governing the raising of the dead to life.

Many people question the veracity of the official reports regarding the remarkable cures reported to have occurred at Lourdes; we do not intend or even desire, to dispute the reality of any of those cases, because if people resort thither with their minds filled with an absolute belief of being cured it is possible that they would be cured. We have heard of many people (here in Bengal), resorting to the Hindu shrine at *Tarkessur*, being cured of their ailments; these people resorted to this shrine with the certain assurance of being cured, and they were cured. Some twelve years ago we knew a well-to-do Hindu tradesmen, he had been suffering for a long time with a type of low fever, and the spleen and hair were affected, he was emaciated and weakly; this man went on a pilgrimage to *Tarkessur*, we saw him on his return a week or ten days later, when he professed that he was cured; we saw him at short intervals and certainly he seemed to be improving, and in six months he was a stout strong man. How was he cured? He had taken no medicine for some days previous to his journey to *Tarkessur*, or would he take any subsequently. He was cured we believe because he visited the place, with a lively faith of being cured in the locality.

The minds of some people are so peculiarly constituted that to mention a miracle to them is equivalent to stating a subversion of the laws of nature, the mere phrase, means for them destruction of all rational ideas on the subject, and introduces doubts, and difficulties; a miracle, say they, is something that causes a division between the relations of the physical and spiritual worlds, which innumerable evidences or circumstances show to be similar and consanguine parts—a great work of the Creator's. This is reasoning inversely.

The man who accepts the aid of scientific teaching in explaining miracles, has a purer and stronger faith than that acquired by the religious dogmatist, the former sees no discredit attaching to religion, nor a reduction of the marvellous reality ascribed to miracles by a simple and natural explana-

tion of cause and effect, to him the marvel of success remains as great as ever, and is even enhanced by the wonderful simplicity disclosed in its relation, and the faith of earlier years regarding the narratives (of miracles), in the Bible, heightened and made brighter, because he now sees nothing inconsistent with universal order in what these narratives relate.

The miracles, which at the present time, attract thousands to Lourdes and other shrines, in other lands, are not novel nor irregular; for they attract only the devout, in other words people who believe firmly that a visit to one of these shrines will cure them; this mental attitude maintained previously for days and weeks, has its effect on the body and governs it to control, and there is no shroud of mystery about it, so it seems to us. Still as of old, through scientific aid, the "blind receive their sight, the lame walk and the deaf hear." We have also cases of persons who to all appearances passed the boundary line of death, return to earthly life and its duties.

The Royal Commission on Opium commenced its Indian sittings in the Bengal Council Chamber, Calcutta, on the 18th of last month, and has been taking evidence since then. The nature of the evidence which has been given is to all intents and purposes similar to that given before the Commission whilst in England, excepting that the pro-opium evidence from a political standpoint is more decided and strenuous, and a large amount of *official* medical evidence has been recorded, which might easily have been obtained through the ordinary official sources. We have always maintained that opium is not the deadly demoralizing agent which the Anti-Opiumists wish to induce the public to believe. That it is on occasions deleterious there is no doubt, but only when taken in doses sufficient to act as a poison; the same may be said of other drugs and stimulants. But the Anti-Opiumists are blind to facts. To the masses of India opium is a boon and a blessing; without it the labouring classes could never endure the hardships and privations they have to undergo in the many occupations incidental to their half-starved positions in life in India; as a means of conveying good fellowship it could never be replaced by alcoholic or any other intoxicant, as it has been used in this away since ancient times, and long before the British ever set foot on Indian soil. As a popular medicine, in various painful and climatic diseases, it cannot be rivalled in the opinion of the native public, but all this is nothing to the Anti-Opiumists. The whole tone of the evidence given by those representing this party is of very little scientific value, and certainly not in accordance with the evidence and experience of unbiassed medical men in this country, both European and native. From the very beginning Indian opinion has been much opposed to the Anti-Opiumist's views. But although only the outcome of a fad, existing only in the minds of fanatics, the work of the Opium Commission will proceed, and a part, if not the whole of the burden of its cost will fall on the already heavily-laden Indian tax-payer. We must say that, as far as it has gone, the result of the investigation does not bear out the views which have been insisted on with such vehemence and eagerness by the Anti-Opium League, and that their case was much exaggerated is to our mind and to the mind of every conscientious observer now transparently clear. All that they have attempted may be very easily stated; they have provided some estimable and very able gentlemen with a nice little business-with-pleasure trip, but they have so far caused their own misrepresented views to be completely depreciated. Up to this no demonstrative evidence has been tenderd by them of any cases of the living walking skeletons so graphically and touchingly portrayed in anti-opium literature—we know of opium-eaters who have thrived on its use, and instead of becoming lean and emaciated, have grown robust and corpulent—and so far the procedure of exciting the sympathy of the British public, as adopted by Anti-Opiumists, has been thoroughly discredited.

The Anti-Opiumists have made most unfounded statements to prop up their cause, and we shall be surprised if the Commission does not eventually decide that their attacks have miserably failed all along the line. Anti-Opiumists now know this, and the various Associations which are working in England for the suppression of the opium traffic feel that their position has been seriously affected by the evidence already given before the Commission in London.

The closing of the opium shops in Bombay has had the effect of opening opium clubs, and also of stimulating the taste for alcoholic drinks and hemp drugs. If then it is to be a question of opium, ganja, or alcohol, by all means let it be opium. The Anti-Opiumists however wish to abolish all these by edict, but how the abolition will affect the natural desire is a puzzle worthy of being solved—edicts will not do it.

On the conclusions of the Opium Commission rest the future peace or disturbance of India. Sir David Barbour and all those competent to speak upon the question, state most emphatically that the prohibition of the cultivation of the poppy in India may lead to the most disastrous consequences, and that even if the British public offered to reimburse the Indian Government for the loss of revenue in that direction—an eventuality not likely to be achieved—it would still be dangerous to adopt the programme of the Anti-Opium party in this country. The stoppage of opium as now used in India would we believe create great discontent, and might finally end in an insurrection, an opinion in which more able men than ourselves coincide. We hope to review the evidence taken here by the Commission in our next issue.

Medical News Letters.

LONDON LETTER.

[From our own Correspondent.]

Exophthalmic Goitre.

A very interesting discussion on this subject took place at the first meeting of the Medical Society. It was introduced by Dr. Maude of Westerham who referred to fifteen cases of Grave's disease which had been under his care. He had found the thyroid enlarged in every one of these cases, although at times the enlargement was not noticeable. He wished to estab-

lish the fact that the other symptoms of the disease were due to the thyroid enlargement. With regard to the nervous symptoms of Grave's disease, such as irritability or even fierceness of temper, twitchings of face, and tremors of limb muscles, it was suggested that they were due to the presence in the blood of an excess of the secretion of the thyroid gland, and, therefore, this etiology of this disease is the exact opposite of that of myxœdema, a disease in which the symptoms are clearly proved to be dependant on absence or atrophy of the thyroid gland. The nervous symptoms of myxœdema, too, are exactly opposite to those of Grave's disease. In the former disease the patient is lethargic dull and with slow pulse, and dulled sensation; while in the latter, he is extremely irritable and excitable with a quick pulse and often hyperæsthetic all over.

Dr. Maude also drew attention to the fact that several cases of Grave's disease belonged to families which numbered amongst their number cases of idiocy, insanity, and myxœdema.

It is generally admitted, having been demonstrated by Prof: Koeker of Berne, that when the entire thyroid gland is extirpated, the patient is extremely likely to have myxœdema, and the possibility of this result occuring, can be prevented by leaving a small piece only of the gland, but in cases of Grave's disease, even when the entire gland is removed, no myxœdema results.

In several cases under my own observation, removal of the thyroid in whole or part, entirely relieved all the symptoms of Grave's disease. It therefore seems to be a very promising method of treatment, especially as the operation though formidable, and tiring to the Surgeon, does not appear to be of great risk to the patient. One case operated on by Sir Joseph Lister was alive and free from any symptom ten years later.

English Cholera.

During the last week London has been a little alarmed about an epidemic of severe diarrhœa which has occurred at Greenwich, an old-fashioned riverside suburb of London. Much of the town is very old, and therefore rather unsanitary and so likely to afford a suitable ground for spread of cholera. The epidemic has been limited to the workhouse, where 240 cases have occurred with several deaths.

There were no new cases reported yesterday, so we may hope that this is the end. It is the old story of bad brick drains, and the water supply derived from an adjoining well. It is stated that bacteriological examination has shewn the presence of comma bacilli, but other tests shew that it is not true Asiatic cholera. The slight epidemic of Asiatic cholera at some of the English seaport towns mentioned in my last letter, has quite subsided.

The Clinical Society.

At the first meeting of this society, Mr. Mayo Robson of Leeds read a paper upon a case of pyloric obstruction, for which laparotomy was performed. The obstruction was found to be due to adhesion between the stomach and liver which had probably been caused by gall stones; these adhesions were separated thoroughly, and the patient made a complete recovery. In addition to this case, Mr. Robson mentioned several others where abdominal exploration had been done for various obscure intestinal symptoms, such as pain, chronic constipation etc., and where nothing, except adhesion was found to account for the trouble, but, after separation of the adhesion, a perfect recovery resulted. He also referred to certain operations, the results of which are quite satisfactory, but in what way this occurs is unexplainable; such cases as nephrotomy for supposed renal calculas, where no stone is found, but the patient loses his pain, and again, in several cases, cholecystotomy has effected a cure of severe hepatic pain although no gall stones or adhesions were present. Dr. Frederick Roberts spoke in favor of greater attention being paid to peritoneal adhesions, and quite agreed with Mr. Robson on the advisability of abdominal exploration in cases of obscure abdominal pain.

At the same meeting two cases of excision of portions of the large intestine for cancer were brought forward by Dr. Walter Edmunds. In one case the growth affected the cæcum, which was excised 4 years ago, he is quite well, but has an artificial anus. The other case was one of cancer of the sigmoid flexure and was operated on 18 months ago; by means of a Halsted's lateral anastomosis continuity of the bowel was re-established, and the patient now passed his motions naturally with only a very small fistula remaining. Mr. Robson advocated immediate section of the bowel after excison by means of his bone bobbin.

New Students.

The total number of students commencing their studies this year in London is about the same as usual; but the hospital which has got the lion's share is Guys, at which hospital including dental students, there is an entry of 206. The nearest to this is S'Mary's, quite a young school, at which 156 students have entered; then follow the London with 149, and Bartholomew with 128. In many years S'Bartholomew has headed the list, but the numbers at Guy's and S'Mary's are larger than have been recorded at S'Bartholomew for several years. One reason for the success of S'Mary's school is the presence of Sir M. Broadbent on the staff, and the connection of the Prince of Wales' family with the hospital.

Sir Andrew Clark.

I regret very much to report that Sir Andrew Clark, President of the Royal College of Physicians, had a stroke of apoplexy. It was hoped that it would not prove fatal, but he succumbed, and this celebrated physician passed away on the 7th of November, leaving another gap in the ranks of the profession which will be hard to fill.

Transactions of Medical Societies.

THE CALCUTTA MEDICAL SOCIETY.

The November meeting of the Society was held at the Medical College theatre at 6 p.m., on the 8th of November 1893. Amongst those present were, Doctors Crombie, W. J.

Simpson, Moir, Gibbons, Drury, Caddy, Hamilton, Fernandez, Banerjie, Bose, J. N. Ghose, K. N. Dass, Senn, and a number of others.

The President opened the meeting by enquiring if there were any cases or specimens to be shewn to the Society by any one present; there being none, he invited Dr. Crombie to read his paper "Fever in the Roman Campaga" which had been previously announced.

Dr. Crombie.—Whilst returning to India from England where I had been on short furlough, I stopped at Rome. I was armed with letters of introduction from Dr. Charles late of Calcutta, to Professors Celli, and Marchiafava. I was very fortunate in meeting Marchiafava, and his two Assistants Begnani and Bastianelle, from whom I received great kindness; and I take this opportunity of publicly thanking them for the opportunities they allowed me.

Laveran as far back as 1879 first drew attention to the organisms in the blood in cases of malarial fever, but nothing was published till 1883. In 1887, Dr. Vandyke Carter of Bombay whose name is a sufficient guarantee of the geuniness of anything from him, contributed a paper on the appearances of the blood in this condition. Although the description is defective, yet it must have been in the light of the knowledge as far as it had advanced in his day. His attention was also apparently directed to the micro-organisms, for amongst the organisms he describes the correct one is also alluded to, but he does not seem to have given the particular one much attention. From what we know now, and what I saw at Rome, it shews what great progress has been made within the last few years.

In 1891 I was present and heard Laveran speak at the Medical Congress in London, and I confess I was very much impressed with the existence, but uncertain nature of these organisms. I determined however that I would some day see for myself, but I got no opportunity of conferring with Laveran. With this object I went to Rome, and as I said before, I met Marchiafava and his Assistants. Marchiafava and Begnani have together published a very important book on this subject, a copy of which I succeeded in procuring. The importance of it may be learnt when I say that it is being translated, and will appear in the Journal of the Sydenham Society for this month.

I will however give you the views as held by Marchiafava and Begnani, from their book which is in the Italian language, parts of which I have translated during the voyage out.

Malarial fever is divided into two great groups. The malarial fever of winter and spring, and secondly, that of summer, and autumn which are more severe.

In summer and autumn the grave forms of malarial fevers occur. They are divided into two groups. The quotidian in a cycle of 24 hours, and the malignant between every 48 hours. The malignant or pernicious variety, is so called on account of the aggravated symptoms. All the malignant fevers of the Roman Campagna belong to the tertian variety. I have since my return, found the organisms unmistakably present in the blood of cases which have come under my care in the Calcutta General Hospital. Dr. Moir has kindly made for me small drawings of appearances met within the corpuscles and blood vessels from original drawings in Marchiafava's book. [These were handed round to the members of the Society.]

In a case of quartan ague, in the General Hospital, I examined the blood on friday last week (on the 2nd day of the apyrexia), and the appearance corresponded to the drawing I am handing round. In Rome they say when looking for these appearances, if there is any doubt about their presence the conclusion is that they are not present. In the case I have referred to, the peripheral pigment in the amœbæ was seen distinctly. I am positive that the appearances in this case were identical with those of the quartan variety of ague as seen by me at Rome. On the first day the organism is small and without any pigment, possessing distinct amæboid movements, but in a torpid condition. On the second day the pigment is noticed at the periphery of the amæba; on the 3rd day they are larger and contain more pigment; but about 8 or 10 hours before the fever the pigment collects in the centre in the form of two or three blocks. The body of the amæba now becomes arranged in a stria and goes through a process of segmentation, and now looks like a daisy,—a central block surrounded by segments. It is coincident with the attack. The theory advanced is—during the growth of the amæba in the blood cell, it destroys its substance, converts the hæmoglobin into melanin, and forms a toxin which is set free into the blood, which in turn causes the increase of the fever.

The quartan is developed in 72 hours, and the amæba have slight amæboid movements. The blood corpuscles do not increase in size, thus differing from the next variety where they do enlarge.

In the tertian ague, the amæba are larger, more active, and throw out processes even to the extent of 4 or 5. As it grows it converts the hæmoglobin into melanin, forms the toxin exactly as in the quartan, collects the pigment, and undergoes segmentation, but does it in 48 hours, and the next accession of the fever is coincident with the sporulation. The blood corpuscles lose their color, but not to any extent as in the next.

In the tertian ague, besides the amæba in the blood corpuscles there are hyaline bodies containing pigment; these do not undergo segmentation, and in this state form the jelly bodies referred to by Laveran, and figured by Vandyke Carter. Another difference is, the final development can be seen in the blood of the finger and general circulation in the quartan, in the tertian sometimes in the finger, but mostly in the spleen, marrow, and surface of the brain.

These are the fevers which occur as I have said in the Roman Campagna during the spring and winter, and there is a tendency in them to recovery without medicines.

The next group are those of summer and autumn; the first is the quotidian. The amæba here are very much smaller throughout their whole course and differ in character. They have a discoid appearence which is difficult to detect, or they are annular and like a compact mass of protoplasm. They have a

ringed appearance due to enclosure of hæmoglobin, and the pernicious character is shewn in the blood corpuscles which become shrivelled and changed in color; they are really dead, being killed by the amæba, and are then absorbed by the white corpuscles. It undergoes the same development, but is not the same size and secretes a toxin, which kills the blood corpuscles. The same process of segmentation and sporulation goes on, but does not take place in the blood of the finger.

The next variety of amæba possess remarkable power of movement. They destroy the blood corpuscles, undergo segmentation and sporulation as before, but all in 48 hours.

The other organisms are the semilunar bodies, the meaning of which is not exactly known. They are very large, hyaline crescentic bodies, with pigment in the centre. Marchiafava's two Assistants are just now engaged in examining their significance.

These are the different forms of fevers in the Roman Campagna. This chart (shewn) is used by the Roman Doctors. It shows how careful they are to note everything in connection with the disease. From a study of it the period of pyrexia is seen. The period when the amæba is approaching segmentation, and the introduction of the toxin into the blood is shewn, and then the accession of the fever. The period of oscillation is also shown as 1½ deg. Fah. The next is a fall which is so varied as to mislead one to think it is the crisis, but there is always a pre-critical elevation and then the crisis follows. Young amæba without pigment appear as the crisis approaches. The pre-critical is higher than the critical elevation, and it is very curious and unexplained as yet, that at the pre-critical period the leucocytes take upon themselves all forms and are the largest number. All the processes are gone through unless stopped by Quinine.

Dr. Crombie then said,—I ought to make some remarks on the pernicious form of fever in the Roman Campagna. Cases come into hospital in the first accession of fever and die within 48 hours. In some cases there is no elevation of temperature, but coma, hemiplegia, convulsions. If there is elevation of temperature the nervous symptoms are more marked. If a *post mortem* examination is made in these cases, the blood vessels of the surface of the brain are found filled with amæba in a condition of sporulation

The President.—How does the tertian fever develop from the quotidian; what becomes of the amæba?

Dr. Crombie.—Here there are two generations of amæbæ, one is developed and goes on to segmentation, the other does not do so till a day later.

THE MICROSCOPICAL SOCIETY.

A large meeting of both members and visitors assembled on the night of the 13th November 1893 at the Asiatic Society's Rooms, to hear Dr. Wm. King deliver his lecture on "Some Features of Indian Geology under Microscopical Research." The lecturer for the evening dwelt briefly on the importance in a Society like the Microscopical Society, of having popular lectures, which would embrace the larger subjects of which special branches are from time to time brought to the notice of the members by those who are working at them. He knew it was the wish of some members to receive instruction and direction in this general way with the view of enabling them to work up special subjects. Dr. King showed, by reference to a map of India, that this great country is naturally divided into three regions: Firstly, Peninsular India, made up of mountain chains and table-lands lying to the south of the Indo-Gangetic plains; secondly, the Indo-Gangetic plains, made up of vast alluvial tracts and great river systems; and, thirdly, the extra-Peninsular area, consisting of lofty mountains which lie to the north, east, and west of the Indo-Gangetic plain. The oldest of the three regions was undoubtedly the Peninsula. When it was formed, there was a sea stretching northwards, and covering those portions of the globe now occupied by the Himalyan ranges and the Indo-Gangetic plain. Geologically speaking the Himalyas were young as compared with the ancient mountain country of the Peninsula. The Indo-Gangetic plain was formed out of the denudation of the mountains, which surrounded it. There is every indication that the Himalayas were the result of a great contraction of the earth's surface, causing it to crumple upwards, and thus form the parallel ranges which compose this mountainous tract. The Himalayas may still be growing. Attention was next called to a geological map of India, copies of which were handed to those present to enable them to follow what the lecturer said about the distribution of the various rock formations, and their relative ages. In the crystalline formations, such as form the Peninsular tract, it is difficult to fix the age of the rocks; but in the stratified rocks the relative ages of the formations can be determined by examination of their fossiliferous contents. Specimens of the impressions left on the Indian rocks by plants and frogs, and the remains of ammonites, munmulites, &c., were handed round by the lecturer for examination. It was in dealing with the difficult questions raised by examination of the very oldest, the crystalline rocks, that the microscope, armed with the polariscope, was doing most valuable and excellent work. The President of the Society had tackled the subject, and the results of his investigations were already leading his older colleagues to modify their views on some points in the accepted geology of the country. The subject opened up a vast field for amateur research. Amateurs had before now done valuable scientific work in Indian geology and there was still more to be done. The Society formed the nucleus for a band of observers, and its members had already taken the lead, not only in calling attention to the subject, but in actually working out results. After the close of the lecture, Father Lafont and Messrs. Holland and Middlemiss addressed the meeting; and the Reverend Father signified his willingness to aid the Society by lectures on the polarization of light, the light which experience showed was best suited for the purpose of investigating the structure of the ancient crystalline rocks. It was announced that the next general meeting would be held on the 11th December next.

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Current Medical Literature.

FUNCTIONAL VALVULAR INSUFFICIENCY

Dombrowski (*Rev. de Med.*, September, 1893) discusses under this heading incompetency at the mitral and aortic orifices, the valves themselves being intact. The mitral valve may be functionally incompetent (1) in obstruction in the arterial system: (2) in lesions of the cardiac muscle; (3) in nervous disease as chorea, hysteria, and in chlorosis when it is due to defective innervation or disturbed nutrition: and (4) in the acute infective diseases. The author then records 3 cases, 2 of which were fatal. In these latter the insufficiency was due to atheroma of the aorta and disease of the cardiac muscle respectively, the valves themselves being healthy. In both these cases the murmur disappeared for a time during life with temporary improvement in the patient's condition, and in the third case no murmur was to be heard when the patient was discharged. This insufficiency is generally looked upon as due to distension of the mitral orifice itself, but this orifice is surrounded by a tendinous ring. Experimentally the author has shown that when water is introduced under pressure into the ventricle, the insufficiency is due to dilatation of the latter. Clinically, also, the instability of the insufficiency is against its being caused by overdistension of the orifice. Dilatation of the ventricle is always present in these cases, and in this way the insertions of the papillary muscles are further away, so that the valves are unable to close the orifice. Thus the term functional insufficiency should be used instead of relative insufficiency in regard to the mitral orifice. The absence of a history of rheumatism, much dilatation of the heart, a varying loudness of the murmur at each beat, and especially the occasional appearance of the normal sound in place of the murmur are points in diagnosis. The author also draws attention to the murmur being louder, on perhaps heard only during inspiration when the intrathoracic pressure is greatest. At the aortic orifice insufficiency may also occur without valvular lesion, but it is much rarer. Two such cases are related. The insufficiency is there relative. The dilatation of the orifice is due to increased pressure in the aorta, but an abnormal condition of the aortic walls is indispensable. The patient's age, the mode of development, the presence of arteriosclerosis will help to distinguish it from the incompetence of endocarditic origin. Thus functional mitral insufficiency may arise without a permanent lesion, and may recover if the cardiac muscle can recover, but in relative aortic insufficiency there is a lasting and progressive lesion.

ACETONURIA IN DIABETES.

Hirschfeld (*Deut. med. Woch.*, September 21st 1893) says that at present acetonuria is believed to be produced by rapid nitrogenous metabolism. He has however, often found acetonuria present in diabetics without any increased nitrogenous metabolism. From a series of experiments on physiological acetonuria the author shows that under exclusive nitrogenous and fatty diet acetone appears in the urine, and that the addition of carbo-hydrates hinders the formation of this acetone. Morphine, opium, sodic salicylate, alcohol had no effect upon the acetonuria, whereas glycerine had a marked one. The author says that the acetonuria associated with gastric disease, carcinoma, and fevers is in no sense a special form. In slight cases, of diabetes the same results are obtained as above; but in severe cases acetonuria persists in spite of the carbo-hydrates, and only large quantities of the latter have any effect. Thus the carbo-hydrates which are not used up in the body have lost their destroying action on acetone. Up to now the presence of acetone in the urine of diabetics has not been looked upon as having any prognostic significance, but only that of aceto-acetic acid, as shown by Gerhardt's perchloride of iron test. This so-called "diaceturia" appears only when acetone is abundant. The presence of acetone may thus be important, but its amount must be ascertained. Coma is known to appear after a rigid diet with exclusion of carbo-hydrates, that is, when acetone is abundant. The author records three cases of diabetes, two of which died of coma with gradually increasing acetonuria; the third case improved as the acetone diminished. With increasing acetonuria the strength of the patient decreases and the danger of coma is nearer. The more difficult the assimilation of carbo-hydrates the greater the excretion of acetone, but these events do not run parallel. It is probable that with diminished excretion of acetone the substances concerned in producing coma are destroyed. In the presence of considerable acetonuria a strict diet should not be enforced, but carbo-hydrates allowed. With oncoming coma it may be impossible to give them, and then glycerine—100 to 150 g. in the day in tea or coffee—might be useful from its above-named properties, Opium, morphine, sodic salicylate, sodic bicarbonate, antipyrin have not been proved, either clinically or experimentally, to have any acetone-destroying effect.

SECONDARY INFECTIONS IN INFANTILE DYSPEPSIA.

Marfan and Marot have contributed to the *Revue des Maladies de l' Enfance* (August and September) an elaborate study of the relation of pulmonary complications occurring in the course of chronic gastro-intestinal dyspepsia in infants raised on the bottle to the primary affection. The most important and the most frequent complication was broncho-pneumonia. It was present in thirteen out of eighteen cases; in two others there was diffuse and intense pulmonary hyperæmia, and in one other there was pulmonary tuberculosis. Bacteriological examination showed in the lungs, the liver, the spleen, the pericardial fluid, and the heart blood—in some or all—various organisms, of which the most constant were the bacterium coli commune, and the streptococcus aureous or albus sometimes alone and sometimes associated. The B. coli was the microbe most often met with. Evidence is adduced to show that to one or other or both of these microbes are due the broncho-pneumonia, the pulmonary congestion, and the acute feverish diarrhœa, of which one or other commonly determines death. The B. coli, it is suggested, obtains entrance to the circulation either directly or through the lymphatic system from the intestine; the streptococci either by the same route or through ulcerations of the skin or by way of the lungs.

SUBMAXILLARY MUMPS.

Wertheimer (*Münch med Woch.*, August 29th, 1892) remarks that the fact of other salivary glands than the parotid being affected in mumps is generally recognised. Involvement of the submaxillary glands alone has occasionally been referred to, and very rarely indeed only the sublingual glands have been involved. Out of 77 cases under Leitzen the submaxillary gland alone was affected in 6 and the sublingual in 1. Indeed, the cervical glands may possibly be involved alone, or orchitis may be the sole manifestation of mumps. The author relates

in full one of three cases of submaxillary mumps lately seen by him. A boy, aged 8½ years, had swelling of the right submaxillary gland, the parotids being unaffected. On the third day the left submaxillarg gland also began to swell. The temperature varied from 39° to 40° C., and there was loss of appetite, headache, sleeplessness, etc. By the eighth day the fever had gone and the swelling soon disappeared; fifteen days later the mother went through a typical attack of mumps. Sympathetic swelling of neighbouring lymphatic glands, periostitis of the lower jaw from carious teeth, Ludwig's angina, etc., have to be distinguished from submaxillary mumps.—Wacher (*Münch med. Woch.*) reports 4 cases in the same family in which there was swelling of the submaxillary gland, the parotid being unaffected. The author has no doubt that the disease was epidemic parotitis, in which the submaxillary gland took the place of the parotid. Some fourteen days later the mother had typical mumps, and three orther persons in the house also developed the disease.

A NEW METHOD OF TENDON SUTURE.

H. AUGUSTUS WILSON, of Philadelphia (*Intern. med. Mag.*, August, 1893), calls attention to a method of shortening or lengthening tendons exactly to the degree required by the surgeon. The principle of the operation is to expose the tendon by incision of the integuments with antiseptic precautions; to split it longitudinally with a fine knife for a distance varying according to the effect required; then to cut the fibres at each end of the fissure in such a manner as to leave one-half of the split portion attached to the proximal and the other to the distal end of the tendon The joint to be acted upon being placed in the required position, the overlapping portions of the tendon are sewn together with silk or catgut sutures, and the wound is closed. This procedure was first devised by William Anderson, of London (*Lancet*, July 18th, 1891), and was practised by him in a case of neuro-muscular contraction of the fingers in August, 1889; it was repeated independently a year later in a case of posthemiplegic contraction of the hand by W. W. Keen, of Philadelphia (see Supplement to the British Medical Journal, December 12th, 1891, par. 524), and has now been applied with success to the shortening of tendons by Wilson, who refers to the various methods of effecting the same object, and gives the perference to Andersons's operation.

THE USE OF PURGATIVES IN SURGICAL PRACTICE.

NICAISE (*Rev. de Chir.*, September, 1893) holds that careful and constant attention to the state of the bowels constitutes an important element in the management of cases of wounding and of surgical operation. Disturbances of nutrition, as is well known, usually occur after the operative removal of any diseased or destroyed part. The intestinal canal, which before surgical intervention received products coming from the affected structures, afterwards receives them from the traumatic centre. The mixture of these latter products with the ordinary contents of the intestines may result in the formation of fresh toxic bodies. The intestinal fermentation may thus become putrid, and this condition, if not promptly dealt with, may cause symptoms of general poisoning due to the absorption of the products of putrefaction. This state of the intestines following surgical operations should, the author holds, be treated by intestinal antisepsis and the administration of purgatives. Intestinal antisepsis, which in every abdominal operation should always be secured before as well as after surgical interference, consists in the administration of frequently repeated doses of naphthol and salicylate of bismuth. The choice of the purgative agent, which is given in the author's practice on the third or fourth day after the operation, should depend on the results the surgeon wishes to obtain, and also on the condition of the patient. If it be desirable simply to relieve the intestine of its contents which are not in a state of abnormal fermentation, it will usually suffice to administer castor oil, rhubarb, or calomel. The last puragative will have the advantage of acting on the liver, the functions of which are sometimes disturbed both by the operation itself and by the anæsthetic. If, on the other hand, the intestinal canal contains much putrid matter, and its fæcal and gaseous contents are very fœtid, such purgatives should be used as cause intestinal hypersecretion. Indeed, in these conditions the purgative ought to exert a depurative as well as an evacuating action. The intestinal purtrescence is due not only to fermentation taking place within the canal, but also to the addition of the producis of malassimilation, and of those of absorption from the seat of the traumatic lesion. In cases of this kind recourse should be had to saline purgatives, which by causing an abundant hypersecretion from the intestinal wall will tend to free the blood and the whole organism from the noxious excrementitial products. Fœtid diarrhœa occurring during the treatment of an injury or after the operation should not, it is held, be arrested, but, on the contrary, so long as the stools are fœtid should be treated by purgatives.

ETHYL BROMIDE AS A GENERAL ANÆSTHETIC.

HARTMANN AND BOURBON (*Rev. de. Chir.*, September, 1893) have formed the following conclusions from the results of an extensive experience of the administration of ethyl bromide as a general anæsthetic in surgical operations. It is very important to use this agent pure, and particularly to avoid the confusion often made between bromide of ethyl and ethylene bromide. This latter anæsthetic is not free from danger, and has often caused bad effects which have been unjustly attributed to ethyl bromide. When properly administered ethyl bromide is a very convenient, rapid, and safe anæsthetic. The patient recovers very speedily, and does not suffer from any *malaise*. As it causes cephalic congestion, it should not be given whilst the patient is sitting. As it is safe only when administered for a short period, it cannot be used in prolonged operations. In such cases recourse should be had to the usual methods—ethyl bromide at first and afterwards chloroform. This method has the advantage of shortening the period necessary for rendering the patient insensible, but will not exclude the possible occurrence of syncope. Ethyl bromide causes an unpleasant odour of the breath for two days after its inhalation but this inconvenience is not usually experieneed by the patient himself.

SUCCESSFUL OVARIOTOMY DURING PUERPERAL SEPTICÆMIA.

LE ROY DES BARRES (*Annales de Gynèc. et d'Obstèt.*, September, 1893) successfully operated in very desperate circumstances. The patient was 29. During her fourth pregnancy she suffered from severe pains in the left iliac fossa. On July 31st, 1892, she was delivered. She got up on the third day, when a severe attack of pain, with a rigor, forced her to go to bed again. For fifteen days she was laid up with severe peritonitis, and then effusion was discovered in the right pleura. The abdomen was distended. Phlebitis in the left leg and great debility followed, and the patient was admitted into hospital. An ovarian cyst was detected. The grave general symptoms, including the pleural effusion, were ascribed not to the tumour but to puerperal sepsis. On October 11th, as there was much dyspnœa, the cyst was tapped and over ten pints of a fœtid purulent liquid removed. There was temporary relief, but ovariotomy was found necessary on October 20th, 1892. There were free intestinal adhesions, the pedicle was thin and not twisted. The peritoneum was flushed and drained with iodoform gauze. The patient made a good recovery, and the catamenia reappeared. Des Barres's case was thus operated upon on the 82nd day after delivery, a childbed complication still existing. He quotes three other cases where ovariotomy was performed in the puerperium, Lawson Tait's (4th day), Cauchois's (53rd day,) both fatal, and lastly, Terrillon's (35th day), which recovered.

VITAL STATISTICS.

STATIONS.	Population,	Period.	DEATHS.								Ratio of deaths per mille.	BIRTHS.	Ratio of births per mille.
			Cholera.	Small-Pox.	Measles.	Fevers.	Bowel Complaints.	Injuries and accidents.	Other Causes.	Total.			
		Week ending											
Calcutta ...	681,560	21st Oct. 1893.	35	1	...	192	70	...	170	468	35·8	...	...
,, ...	,,	28th ,, ,,	32	...	...	214	73	...	195	514	39·3	...	...
,, ...	,,	4th Nov. ,,	20	...	...	204	72	...	172	468	35·8	...	...
,,	,,	11th ,, ,,	18	...	...	226	74	...	173	491	37·5	...	...
,,	,,	18th ,, ,,	19	...	...	227	78	...	178	502	38·4	...	...
Bombay ...	821,764	17th Oct. ,,	1	1	...	103	26	...	288	419	26·51	...	...
,, ...	,,	24th ,, ,,	3	·1	...	81	21	...	284	390	24·67	...	...
,, ...	,,	31st ,, ,,	...	...	...	102	12	...	287	401	25·37	...	...
,, ...	,,	7th Nov. ,,	1	1	...	93	22	...	285	402	25·43	...	...
,, ...	,,												
Madras ...	452,518	13th Oct. ,,	2	....	4	133	35	...	143	317	36·4	394	45·2
,, ...	,,	20th ,, ,,	...	1	5	120	48	...	156	330	37·9	377	43·3
,,	,,	27th ,, ,,	...	1	3	124	36	...	145	309	35·5	382	43·9
,,	,,	3rd Nov. ,,	2	...	2	155	43	...	173	385	44·2	372	42·7
,, ...	,,	10th ,, ,,	2	1	2	131	44	...	156	336	38·6	361	41·4
Delhi ...	...	Oct. ,,	...	...	...	209	27	4	215	455	...	882	...
Rangoon ...	...	6th Oct. ,,	...	...	...	33	14	1	83	131	120	...	...
,, ...	...	13th ,, ,,	...	...	...	35	9	...	60	104	29·99	...	...
,, ...	...	20th ,, ,,	...	...	...	19	9	...	74	102	29·41	...	...
,, ...		27th ,, ,,	...	...	...	38	10	...	62	110	31·72	...	...
Naini Tal	...	14th Nov. ,,	...	...	...	...	...	...	...	...	...	...	...
Moradabad	72,068	,, ,,	...	1	...	19	8	1	32	61	·85	...	...
Bareilley	107,785	,, ,,	...	...	...	35	5	...	3	43	·40	...	...
Saharanpore	63,194	,, ,,	...	...	...	47	...	...	...	47	·74	...	...
Meerut	73,637	,, ,,	...	...	...	52	1	...	1	54	·73	...	...
Agra	146,208	,, ,,	...	...	...	61	2	...	13	76	·52	...	...
Sitapur	...	,, ,,	...	...	...	...	...	...	...	...	...	...	...
Cawnpore	163,779	,, ,,	...	...	...	107	...	...	16	123	·75	....	...
Allahabad	162,895	,, ,,	1	...	...	36	...	...	18	55	·34	...	...
Fyzabad	72,686	,, ,,	19	...	...	29	4	...	29	81	1·11	...	...
Goruckpore	64,398	,, ,,	...	...	...	39	...	1	10	50	·78	...	...
Benares	210,691	,, ,,	...	...	...	132	16	1	40	189	·90	...	...

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Medical News and Comments.

THE subject of our next illustration will be Dr. Dymock.

The Government of India has brought certain facts to the notice of the Government of Madras in connection with an outbreak of cholera which recently occured at a certain station, and has requested that the instruction suggested for investigating and reporting on similar outbreaks of epidemic disease may be communicated to all District and Medical officers in the Presidency. In the case to which reference is made above, cholera broke out in a severe form at the station. The District officers and the Civil Surgeon reported that it had been established that troops from a certain locality had brought the cholera with them, and had not only disseminated it along the road, but were indirectly the cause of starting it in the cantonment, bazaar, and civil station. Further inquiry proved these facts to have been totally misrepresented, and showed that the troops in question, far from having brought the cholera into the districts and station, were themselves the sufferers from an infection already existing there. The statements, thus rashly made and afterwards conclusively proved to be erroneous, attracted much attention both in England and in this country, and led to questions being asked in Parliament and to comments in public journals which had no foundation whatever in the facts of the case.

SHAKESPEARE, it seems was right after all in calling the toad "venomous" as well as "ugly," and the witches in "Macbeth," when they added a toad to the ingredients of the poisonous "hell-broth," knew what they were about. Dr. Leonard Guthrie has come upon a curious account of a wicked Italian woman, whose husband was dying of dropsy. He took so long about it that his wife became tired of the process, and thought she would help him on. She accordingly caught a toad and put it in his wine, so that he should drink the liquid and die, but, instead of doing this, to her astonishment he completely recovered. "Forty years ago," says a correspondent of the *Lancet*, this story would have been scouted as mythical, but now we know that it is precisely what the woman would have expected if she had only been acquainted with the researches of modern pharmacology." The skin of the toad, it is explained, secretes a poison the active principle of which —phrynin—has an action very much resembling that of digitalis, which is the remedy, *par excellence* for dropsy depending on heart disease. This medical correspondent thinks it quite possible that, some of these days, we may find an enterprising firm advertising essence of toad as of superlative virtue for the cure of dropsy.

A WRITER in a well-known ladies' journal, published in Paris, is explaining to the French public the benefit of "Le Tub" from a hygienic point of view. Apparently he does not look upon a daily bath as an ordinary part of a lady's toilet, since he says the "tub" is not only to be recommended from the standpoint of health, but it is useful for cleansing purposes, as in these days few ladies have time for a bath. His directions are somewhat amusing. The patient is to get a bucket of water, a big sponge, and a flat zinc "tub," placing it for convenience in at out-house or disused stable. Then support yourself by a chair or table, or if you like obtain the assistance of your husband or ladies' maid. Then with six "coups" of the sponge at the back, front, and side, douche the body with cold water. The whole process, he explains, should not occupy more than twenty to twenty-five seconds. It would seem from the above that the French notion of a cold bath is of a somewhat elementary order.

THE SCIENCE OF SARCOLOGY.—Professor Wood, of the University of New-York, suggests that the Brown-Sequard treatment is laying the foundation of a new medical science which is distinct from anatomy and physiology. "Sarcology," as he calls it, is based on the four elementary kinds of flesh, muscle or motor agents, vessels or the constructive agents glands or the productive agents, and nerves or the exciting agents. The corresponding parts of a healthy animal treated with boric acid, glycerine and alcohol, according to Dr. Hammond's method, yield four liquids, "neurine, musculine. vasculine, and glanduline," which, injected into the blood, will raise the spirits, increase the energies, the vitality, and the effusive power. The brain is the chief nervous centre, the breast of birds and the rump of deer their principal muscular centres, and the heart is the centre of vitality. "The ancient Romans," he says, "were convinced of the truth of the dictum that each part nourishes a part. As an example, the udders of cows were eaten by them as an emotional food. The science of sarcology and the new way opened up by Brown-Sequard and Dr. Hammond suggest higher possibilities. Who knows but some day we may inject into our veins the breasts of birds and the heart of the lion as modes of raising human spirits and energies." The reader will be reminded here of the idea among savages that if you eat the heart of a brave enemy you will gain his courage.

On the other hand, Dr. W. C. Krauss, of Buffalo, N. Y., is disposed to throw cold water upon these new methods of treating disease introduced by Dr. Brown-Sequard, and he characterises them as disappointing in many cases, at least. The methods in question have given rise to quite a crop of new remedies for all sorts of organic troubles, such as cerebrine, medulline, musculine, which are now made and sold in America in large quantities. Dr Krauss has not succeeded in getting the result claimed for some of them which he has tried, and does not know whether the alleged cures are genuine or the effect of "suggestion" and "auto-suggestion."

STATISTICS are said to show that young men do not, on the average, attain full physical maturity until they arrive at the age of twenty-eight yeats. Professor Scheiller, of Harvard, asserts, as the result of his observations, that young men do not attain the full measure of their mental faculties before twenty-five years of age. A shrewed observer has said that "most men are boys until they are thirty, and little boys until they are twenty-five," and this accords with the standard of manhood which was fixed at thirty among the ancient Hebrews and other races.

SURGEON-COLONEL J. CLEGHORN returns to India and resumes charge of the office of Inspector-General of Civil Hospitals, Punjab, relieving Surgeon-Colonel A. Stephen, who will revert to the office of Sanitary Commissioner, Punjab, relieving Surgeon-Lieutenant-Colonel W. A. Roe.

SURGEON-CAPTAIN J. FENTON EVANS, Officiating Chemical Examiner to the Punjab Government, proceeds in a similar capacity to Bengal. He will be succeeded at Lahore by Surgeon-Captain Bedford.

The centenary of the death of John Hunter, the famous anatomist and surgeon, was celebrated at the Royal College of Surgeons on the 16th October. There are a number of memorials of the great anatomist at the College in Lincoln's Inn Fields, his portrait by Sir Joshua Reynolds, his statue, and, above all, his famous museum, which after his death, the Government of the day purchased from his family for £15,000 and presented to the College. Hunter was a Lanarkshire man, born in 1728, and his elder brother William was a famous physician. John, who had come to London to his brother's school of anatomy, was for several years an army surgeon. From 1767, for 25 years, he was surgeon to St. George's Hospital, Grosvenor Place, and it was there that he made his fame. He lived for some years in a house in Leicester-square, next door to the present Alhambra Music Hall, and in a building at the rear collected his museum. His bust, with those of three other Leicester-square worthies—Hogarth, Reynolds and Newton—adorns the square. Hunter afterwards lived at Earl's Court, then quite a rural suburb, now given up to West-end mansions and a series of exhibitions, of which Captain Boyton's Water Show has been the last, Hunter died in harness, for in October, 1793, in the board room of St. George Hospital, he was excited by some trifling annoyance, which brought on a seizure that proved fatal. At the museum in the College of Surgeons may be seen the skeleton of O'Brien, the Irish giant, who died in 1783 at the age of 22. Hunter managed, with great difficulty, to obtain possession of the body of this man, who was eight feet high, and boiled it in a copper in his house in order to remove the flesh.

"Cawnpore (writes an up-country paper) may be considered fortunate in obtaining the services of a medical practitioner of very considerable professional attainments who is about to settle there on the invitation of the chief manufacturing companies, to watch over the health and surroundings of their employes. Dr. Charles A. Fuller, the gentleman referred to, is a Bachelor of Medicine, London University; M.R.C.S., and Licentiate of the College of Physicians. He has been House Physician to Sir William Broadbent at St. Mary's Hospital, London, in charge of its Maternity Department and Obstetric Wards, and was later acting in the same capacity at the National Hospital for Epilepsy and Paralysis, practising privately besides. Mr. Fuller's adoption of a new field may mean either that India has special attractions for young rising men or that the field at home is over-crowded, or both. In any event the Indian community gains by their coming." We wish Dr. Fuller every success.

The Mecca Pilgrimage.—Kadri Bey Effendi, the Turkish Consul-General at Bombay, informs the local papers that the Sultan, taking into consideration the difficulties and trouble experienced by both quarantine officials and pilgrims at Kamaran, has been pleased to re-model the existing quarantine arrangements. The present sheds are to be altogether removed, and new comfortable buildings substituted; filtered water will be supplied in place of the brackish fluid as now. Machinery for ice-making is also being procured. Each pilgrim vessel arriving at Kamaran will discharge within the space of three hours, instead of three days. A quarantine station will also be established near Jedda for pilgrims wishing to proceed early to Mecca before the season. The Sultan is also erecting out of his private purse a *moosafarkhana* to hold six thousand pilgrims. All the arrangements are to be completed in time for the next Haji.

Dr. Cowasjee Hormusjee Shroff has been appointed Sheriff of Bombay. Dr. Shroff has been a member of the Corporation for 23 years, and is now Chairman of the standing committee. The appointment has the cordial approval of all classes.

The following officers of the Indian Medical Service, having on the 30th October, reported their arrival from England on first appointment to the Bengal Presidency, are directed, under instructions from Army Head-quarters, to proceed to the stations noted opposite their names, and report themselves to the Principal Medical Officers of the districts for duty:—Surgeon-Lieutenant L. Rogers to Rawal Pindee, and Surgeon-Lieutenant C. C. S. Barry to Umballa.

Some investigations carried out by Dr. Houston, of Edinburgh, respecting the number of bacteria in the soil at different depths from the surface, go to prove that the micro-organisms become less and less abundant as the depth from the surface increases. For example, the average number of germs in a gramme of soil examined, which was taken from the surface, was 1,687,799; at a depth of three feet this average fell to 173,807; and at a depth of six feet it was only 410. The deduction is that at a certain definite distance from the surface the soil would be sterile.

The police are doing all they can to suppress the new morphine habit which has taken hold of the Chinese at Hongkong. Under the authority of a special Act, they are prosecuting all who are found in possession of the drug and the necessary instruments.

Burma Opium Rules.—The Burma Opium Rules have been finally revised in the Legislative Department, and will be forwarded to the Financial Department immediately.

Surgeon-Lieut. C. R. Stevens, of the Indian Medical Service, having reported his arrival at Allahabad from England on first appointment to the Bengal Presidency, comes to Calcutta for duty.

The widow of the late Dr. Ardeshir Dadabhai Naorojee, the only son of Mr. Dadabhai Naorojee, has been granted a pension of Rs. 100 per mensem by H. H. the Rao of Cutch. His Highness has offered to increase the amount to Rs. 200 per mensem, provided she lives in Cutch.

It is believed that very shortly a regular system of vaccination will be introduced into Kashmir. It is well known that His Highness the Maharajah is in favour of this, and, indeed, that he himself has been the prime mover in the matter. The scourge of small-pox annually carries off large numbers of people in the not over-populated valley, so that the move is a good one.

The *Pioneer's* London correspondent telegraphs that Surgeon-Lieutenant-Colonel Franklin, at present Civil Surgeon of Jubbulpore has been appointed Surgeon on the staff of the new Viceroy.

The Government of India have ordered that in future all Cantonment Hospitals are to be administered by the Military Medical Department.

Dr. Lethbridge's scheme for the suppression of dacoity in the Central India and Rajputana States has received the sanction of the Secretary of State, and will be carried into effect at once.

Death of Sir Andrew Clarke.—Sir Andrew Clarke, the celebrated physician, died on the morning of the 7th of November last.

Correspondence.

A QUESTION FOR THE EDEN HOSPITAL AUTHORITIES.

To the Editor, The "Medical Reporter."

Dear Sir,—I would like to know whether independent medical practitioners are allowed to visit the Calcutta Eden Hospital and see cases with the Obstetric Surgeon, and also whether they are allowed to attend the operating theatre at the Eden Hospital. There are no restrictions in the Hospitals in Great Britain, in fact the operations are announced to the profession, and if this was done in Calcutta it would be a great boon to the medical practitioners in this city.

Yours &c.,
M. B.

CAREER OF MEDICAL PRACTITIONERS IN PRIVATE PRACTICE IN INDIA.

To the Editor, The "Medical Reporter."

Sir,—I am surprised that no steps have been taken to redress the grievances of independent medical practitioners, especially those who have qualified in Europe and have settled down in private practice here. Let us now draw up briefly the career of a doctor who has rubbed shoulder to shoulder with English, Scotch, and Irish students, and who has successfully passed the college examinations, and in very many instances headed the list at the several Scotch and English Universities. He returns to India, to his home, with an idea that Government will give him a helping hand in securing a local post. To his utter astonishment he finds that, he has no chance of such a post, because he has qualified in England; and he sees men inferior to him in education and ability get patronage and help from Government. He tries to set up in private practice, the first necessary article needed for this is money, and the other is influence; without these a native of India, be he Eurasian, Hindoo, Mohamedan, Parsee, or Sikh, will never get on. Within the first twelve months he finds that he has made very little progress, he sees that the well-to-do residents have covenanted European medical men as their family doctors, while the poor resort to the charitable institutions and hospitals.

His last hope is to give medical advice 'gratis', or he sits at a second class dispensary for a couple of hours daily and in return gets 25 per cent on his prescriptions. On an average his income does not exceed Rs. 30 a month. His conveyance hire to and from the dispensary is Rs. 1-2, per diem. Practically he earns nothing. He goes on struggling for 8 or 10 years in this way, and at the end of which period he finds his income average from Rs. 100 to 150 a month. His position has to be maintained, he has to keep up a decent show, whereas his income is insufficient for his ordinary expenses. If successful, he finds that at the end of 20 years his income varies from Rupees 250 to 300 a month.

Let us now consider the career of a medical student who has entered the Indian Medical Service.—

He draws the pay of his rank which is a magnificent sum; gets staff pay; gets an extra allowance for doing civil work; in addition he is allowed private practice, and draws from family patients an annual fee of about Rs. 300 a year. He further fills his pockets by getting fixed sums from Life Insurance Companies.

Taking his average income at the end of 10 years he draws an income varying from Rs. 800 to 1,200 a month or more. It is an open secret that the covenanted doctors who have charge of hospitals have a peculiar method of going round the wards, to finish their work in from 1½ to 2 hours They are anxious to leave the hospital as they find patients waiting to take them out, paying in each case Rs. 16, for an ordinary visit; but if any operative surgery is to be done the fee is enormous.

Now the question before us is whether such a monopoly can remain long in the hands of these army doctors. My answer is —No. The only way for independent practitioners to secure a fair hearing, is by agitating and by sending memorials to the Secretary of State. Why should the State support army doctors and give them all the *civil* work in important stations and in metropolitan towns.

The independent medical gentlemen of Bombay have been first in the field, they have recently held a meeting, and have passed a resolution to the effect that all civil appointments and professorships in colleges should be thrown open to all doctors, whether they be Government servants or not; now this memorial in my opinion should be signed by all independent medical practitioners residing in India, and there should be no distinction of creed, caste, or color.

In order to strengthen our cause, we should lose no time in asking the Secretary of the National Indian Congress to bring up this subject at the forthcoming meeting, and further urge that simultaneously with the Civil Service examination, the I. M. Service examination should be held in India.

Yours &c.,
Fiat Justitia.

Government Medical Notifications.

GAZETTE OF INDIA.

No. 653.—With effect from the date of assuming charge, Surgeon-Colonel R. Harvey, M.D., D.S.O., I.M.S., (Bengal), Principal Medical Officer, Punjab Frontier Force, is appointed to officiate as Inspector-General of Civil Hospitals, Bengal.

No. 954.—The services of Brigade-Surgeon Lieutenant-Colonel J. H. Newman, M.D., I.M.S. (Bengal), are replaced at the disposal of the Foreign Department, with effect from the date on which he relinquishes charge of his duties of Officiating Inspector-General of Civil Hospitals, Bengal.

Surgeon-Major F. J. Doyle, Indian Medical Service, Madras establishment, medical officer, 1st Infantry, to be officiating medical officer, *vice* Surgeon-Major R. James M.B., on furlough, dated 16th August 1893.

Surgeon-Captain E. R. W. C. Carroll, 16th Bengal Infantry, (p. a.) without pay for nineteen days.

No. 23.—Assistant Surgeon Asutosh Ghose of the Bengal Provincial Establishment, is permitted to resign the service of Government, with effect from the 17th July, 1893.

No. 7703.—First class Hospital Assistant Bhowany Sing of the Reserve Establishment at Indore is granted privilege for one month and a half, with effect from the 7th October, 1893.

No. 669.—The services of Surgeon-Major J. A. Burton, I.M.S. (Madras), are replaced at the disposal of the Government of Madras, with, effect from the 14th October 1893.

No. 1731-G.—Brigade-Surgeon-Lieutenant-Colonel T. ffrench-Mullen, M.D., Indian Medical Service (Bengal), Civil Surgeon of Bikanir, is appointed to officiate as Residency Surgeon in the Western States of Rajputana, with effect from the date of assuming charge, and during such time as Surgeon-Major A. Adams, M.D., may officiate as Residency Surgeon and Chief Medical Officer in Rajputana, or until further orders.

Surgeon-Major H. N. V. Harington, Indian Medical Service (Madras), Medical Officer of the Deoli Irregular Force and of the Haraoti and Tonk Political Agency, is, on being relieved of his appointment as Officiating Agency Surgeon in Ulwar, appointed to officiate as Civil Surgeon of Bikanir, with effect from the date of assuming charge, *vice*, Brigade-Surgeon-Lieutenant-Colonel ffrench-Mullen.

No. 1733-G.—Surgeon-Captain J. Chaytor-White, M.B., Indian Medical Service (Bengal), is, on being relieved of his appointment as Officiating Civil Surgeon of Ajmere and Officiating Medical Officer of the Merwara Battalion, reappointed to officiate as Medical Officer of the Meywar Bhil Corps, with effect from the date of assuming charge, *vice* Surgeon-Lieutenant W. E. A. Armstrong, Indian Medical Service (Madras) whose services are replaced at the disposal of the Military Department.

No. 1741-G.—Surgeon-Major G. S. Robertson, C.S.I., Indian Medical Service (Bengal), Officiating British Agent at Gilgit, is granted privilege leave for three months, with effect from the 21st October, 1893, or the subsequent date on which he may avail himself of the leave.

Surgeon-Lieutenant-Colonel W. M. Courtney, 38th Bengal Infantry, for one year. Pension service—24th year commenced 22nd December 1892.

Surgeon-Major G. S. A. Ranking M D., 5th Bengal Cavalry, for one year. Pension service—19th year commenced 30th May 1893.

Surgeon-Captain W. H. Gray, 19th Bengal Infantry for one year. Pension service—6th year commenced 24th June 1893.

Surgeon-Captain D. G. Marshall, M.B., 17th Bengal Cavalry, for one year. Pension service—6th year commenced 24th June 1893.

Surgeon Lieutenant-Colonel J. Wilson, M.D., Civil Surgeon, Hazaribagh, (m. c.) for six months.

No. 1019.—The undermentioned warrant officer is granted leave to proceed out of India on medical certificate under article 920-F, Army Regulations, India, vol. I, part I; the leave to have effect in India from the date of being struck off duty till the date of sailing; the specified period to count from the date of leaving India:

First grade Assistant Apothecary A. R. Paterson, Subordinate Medical Department, for one year.

No. 1020.—Surgeon-Lieutenant-Colonel H. Johnstone, M.D., Civil Surgeon, Rangoon, is granted furlough in India, (p. a.) for one week, in extension of the furlough out of India allowed him in G. G. O. Nos. 488 of 1892 and 243 of 1893.

No. 3784-*G*.—The services of Surgeon-Lieutenant-Colonel J. T. B. Bookey, Indian Medical Service (Bengal), are replaced at the disposal of the Military Department, with effect from the date on which he may relinquish charge of his appointment as Officiating Medical Officer of the Bhopal Battalion and of the Bhopal Political Agency.

No. 1031.—Brigade-Surgeon-Lieutenant-Colonel W. P. Warburton, M.D., Indian Medical Service, Bengal, is granted the temporary rank of Surgeon-Colonel, with effect from the 1st October 1893, whilst officiating as principal Medical Officer and Sanitary Commissioner, Assam, during the absence on furlough of Surgeon-Colonel C. P. Costello.

No. 1032.—Surgeon-Lieutenant H. M. Earle, Indian Medical Service, Bengal, Medical officer, Lawrence Military Asylum, Sanawar, sub. *pro tem.*, is confirmed in that appointment, with effect from the 11th January 1893, *vice* Surgeon-Major G. M. J. Giles, M.B., whose tenure of office has expired.

No. 704.—Surgeon-Captain J. F. Evans, M.B., I.M.S., (Bengal), Officiating Chemical Examiner to the Government of the Punjab and Professor of Chemistry in Lahore Medical College, is appointed to officiate as Chemical Examiner and Professor of Chemistry in the Medical College, Calcutta, with effect from the date of his assuming charge of his duties.

No. 1865-*G*.—Surgeon-Captain J. Chaytor-White, M.B., Indian Medical Service (Bengal), is, on being relieved of his appointment as Officiating Civil Surgeon of Ajmere and Officiating Medical Officer of the Merwar Battalion, appointed to officiate as Medical Officer of the Deoli Irregular Force and of the Haraoti and Tonk Political Agency, with effect from the date of assuming charge, *vice* Surgeon-Captain C. M. Moore, M.D., Indian Medical Service (Bombay), who is placed in medical charge of the Camp of the Governor-General's Agent in Central India.

(This cancels Foreign Department notification, No. 1733-G., dated the 25th October, 1193.)

No. 1872-*G*.—Brigade-Surgeon-Lieutenant-Colonel J. H. Newman, M.D., Indian Medical Service (Bengal) Residency Surgeon and Chief Medical Officer in Rajputana, is granted furlough, for one year, under article *(b)*, Chapter XIII, Civil Service Regulations, with effect from the date on which he may avail himself of the furlough.

Surgeon-Lieutenant-Colonel Charles John Walford Meadows to be Surgeon-Lieutenant, *vice* Bovill, resigned.

No 4486-*G*.—Surgeon-Captain C. M. Moore, M. D., Indian Medical Service (Bombay), Officiating Medical Officer of the Deoil Irregular Force and of the Harowtee and Tonk Agency, returned to duty on the forenoon of the 22nd October, 1893, from the privilege leave granted him in this Office Notification No. 4075, dated the 10th idem.

No. 720—Surgeon - Major J. Moorhead, M.D., I.M.S., (Bengal), Civil Surgeon, Bhagalpur, to be Joint Medical Officer of Simla in succession to Surgeon-Major J. Lewtas, with effect from the 11th November, 1893.

No. 721.—The services of Surgeon-Major J. Lewtas, M.D., I.M.S. (Bengal), are placed temporarily at the disposal of the Government of Bengal, with effect from the 11th November, 1893.

No. 1075.—The undermentioned officers are granted furlough out of India:—

Surgeon Lieutenant - Colonel H. K. M'Kay, Civil Surgeon, Nagpur, (p. a.) for one year, under rule IX of the regulations of 1868.

No. 4653-G.—With reference to Foreign Department Notification No. 1731-G., dated 25th October, 1893, Brigade-Surgeon-Lieutenant-Colonel T. ffrench-Mullen, M.D., Indian Medical Service (Bengal), assumed charge of his duties as Officiating Residency Surgeon iu the Western States of Rajputana from Surgeon-Major A. Adams, M.D., Indian Medical Service (Madras), on the afternoon of the 29th idem.

No. 4694-G.—With reference to Foreign Department Notification No. 1731-G., dated 25th October, 1893, Surgeon-Major H. N. V. Harington, Indian Medical Service (Madras), assumed charge of charge of his duties as Officiating Civil Surgeon of Bikanir from Brigade-Surgeon Lieutenant-Colonel T. ffrench-Mullen, M.D., Indian Medical Service (Bengal,) on the forenoon of the 28th idem.

N.-W. P. GAZETTE.

The under-mentioned officer has been granted by Her Majesty's Secretary of State for India permission to return to duty:—

Name.	Service.	Appointment.	Date on which permitted to return.
Surgeon-Major J. F. MacLaren	Medical ...	Civil Surgeon...	Within period of leave.

Assistant Surgeon Gobind Narayan Das, on return from leave, to reserve duty at Lucknow.

Third grade Assistant Surgeon Kirpa Shanker, attached to the Sadar Dispensary, Mainpuri, to the charge of the civil medical duties of that district, in addition to his own duties with effect from the 10th October 1893, or until further orders.

Assistant Surgeon Nihal Singh, in charge of the Sadar Dispensary, Saharanpur, privilege leave for one month, with effect from the 22nd October 1893.

Brigade-Surgeon Lieutenant-Colonel J. C. G. Carmichael to the civil medical charge of Almora, in addition to his own duties, with effect from the 11th October 1893.

Assistant Surgeon Gobind Narayan Das, on reserve duty at Lucknow, to the charge of the Sadar Dispensary, Saharanpur, during the absence on leave of Assistant Surgeon Nihal Singh, or until further orders.

Surgeon-Captain G. H. Baker, Civil Surgeon, Jhansi, held visiting medical charge of the Banda district from the 18th July to the 31st August 1893, both days inclusive.

Brigade-Surgeon Lieutenant-Colonel A. Cameron, Civil Surgeon, on return from leave, to Benares.

Surgeon-Major J. F. Maclaren, Civil Surgeon, on return from furlough, to Ghazipur.

Surgeon-Captain G. H. Baker, Civil Surgeon, on return from deputation, to the civil medical charge of the Banda district.

Surgeon-Captain J. Morwood, Civil Surgeon, on return from deputation, to the civil medical charge of the Sultanpur district.

Mr. Senior Apothecary S. P. Bond, in civil medical charge of Sultanpur, on being relieved by Surgeon-Captain J. Morwood, to the charge of the civil medical duties of the Partabgarh district.

Mr. Apothecary C. Atkins, on return from deputation in the Jail Department, to the civil medical charge of the Fatehpur district.

Assistant Surgeon Kedar Nath Basu, in charge of the Sadar dispensary, Budaun, held charge of the civil medical duties of the Budaun district, in addition to his own, from the 4th to the 12th October 1893, both days inclusive.

Surgeon-Captain H. B. Melville, Officiating Civil Surgeon from Banda to Ballia, on being relieved by Surgeon-Captain G. H. Baker.

Surgeon-Captain W. G. P. Alpin, Civil Surgeon, from Ghazipur to Hardoi.

Surgeon-Lieutenant-Colonel B. O'Brien, Civil Surgeon, from Benares to Kheri.

No. 5510—The under-mentioned Hospital Assistants, having passed their septennial professional examination, are promoted to the next higher grade, with effect from the dates specified against their names:

Names.	Date of completing 7 year's service in his present grade.	Date of passing examination.	Date of promotion.
To be promoted to 1st grade.			
No. 133, 2nd grade Hospital Assistant Zafer Husain* ...	31st December 1892 ...	16th October 1893 ...	15th October 1893.
No. 134, 2nd grade Hospital Assistant Anandi Din* ...	14th October 1893 ...	16th October 1893 ...	15th October 1893.
To be promoted to 2nd grade.			
No. 190, 3rd grade Hospital Assistant Cheda Lal ...	13th April 1891 ...	16th October 1893 ...	15th October 1893.

* Qualified in English.

Surgeon-Captain G. H. Fink, Civil Surgeon, Bijnor, privilege leave for four days in extension of that granted him by Notification No. 2162-11-653B' dated the 28th July 1893.

Surgeon-Lieutenant-Colonel J. Young, M.B., to the civil medical charge of Roorkee, in addition to his military duties, with effect from the 9th November 1893.

The services of Mr. Assistant Apothecary J. T. Parkinson, Assistant to the Civil Surgeon, Naini Tal, are placed at the disposal of the Government of Bengal, with effect from the date on which he is relieved by Mr. Assistant Apothecary C. A. Farmer.

The services of Mr. Apothecary P. Toomey, in charge of the Civil Hospital, Allahabad, are placed at the disposal of the Government of the Panjab, with effect from the date on which he is relieved by Mr. Apothecary M. Murphy.

Surgeon-Major G. A. Emerson, Civil Surgeon, on being relieved by Surgeon-Major J. Anderson from Bareilly to Muttra.

C. P. GAZETTE.

No. 7586.—Assistant Surgeon Krishnaji Khashinath Gokhle, doing duty under the orders of the Civil Surgeon, Nagpur, is temporarily appointed to officiate as Civil Surgeon of Narsinghpur.

No. 7587.—Under Section 8 of Act XXVI of 1870 (the Prisons Act) the Officiating Chief Commissioner is pleased to appoint Assistant Surgeon Krishnaji Kashinath Gokhle, Officiating Civil Surgeon of Narsinghpur, to the medical charge of the Narsinghpur Jail.

No. 7613.—Surgeon-Major J. L. Poynder returned from the privilege leave granted him by Notification No. 5134, dated the 11th July 1893, and resumed charge of the office of Civil Surgeon, Sambalpur, from Surgeon-Captain E. G. R. Whitcombe on the forenoon of the 12th instant.

No. 7614.—Surgeon-Captain E. G. R. Whitcombe and Surgeon-Major J. L. Poynder respectively made over and resumed medical and executive charge of the Sambalpur Jail on the forenoon of the 12th instant.

No. 7761.—Surgeon-Captain W. L. Price, Civil Surgeon of Chhindwara, availed himself, on the afternoon of the 2nd instant, of the leave granted him by Notification No. 6815, dated tee 15th ultimo, making over charge of his duties to Assistant Surgeon Lakhmi Narain Choudri.

No 7762.—With reference to Notifications Nos. 6815 and 7127, dated respectively the 15th and the 28th ultimo, Surgeon-Captain W. L Price and Assistant Surgeon Lakhmi Narain Choudri respectively made over and assumed medical charge of the Chhindwara Jail on the afternoon of the 2nd instant.

No. 7778.—Surgeon-Major A. Silcock, Civil Surgeon, reported his arrival at Bombay on the forenoon of the 14th instant, on return from the furlough to Europe granted him by Notifications No. 1978, dated the 31st March 1892, and No. 1896, dated the 16th March 1893.

Surgeon-Major Silcock is re-posted to Bilaspur.

No. 7779.—Under Section 8 of Act XXVI of 1870 (the Prisons Act), the Officiating Chief Commissioner is pleased to appoint Surgeon-Major A. Silcock, Civil Surgeon, Bilaspur, to the executive and medical charge of the Bilaspur Jail.

No. 7780.—On being relieved by Surgeon-Major A. Silcock Senior Apothecary W. M. Mitchell, Officiating Civil Surgeon of Bilaspur, is transferred to Narsinghpur in the same capacity.

No. 7781.—Under Section 8 of Act XXVI of 1870 (the Prisons Act), the Officiating Chief Commissioner is pleased to appoint Senior Apothecary W. M. Mitchell, Officiating Civil Surgeon, Narsinghpur, to the executive and medical charge of the Narsinghpur Jail.

No. 7813.—Surgeon-Major G. F. A. Harris, Civil Surgeon has been permitted, by Her Majesty's Secretary of State

for India, to return to duty within the period of the furlough granted him by Notification No. 1973, dated the 31st March 1892.

No. 7855.—Assistant Surgeon Surendra Nath Barat, who was deputed to Pachmarhi on special duty by Notification No. 7585, dated the 17th instant, is appointed to the Main Dispensary, Saugor.

No. 7856.—On being relieved by Assistant Surgeon Surendra Nath Barat, Assistant Surgeon Gopal Chunder Ghose, attached to the Main Dispensary, Saugor, is appointed to supervise the vaccine operations in the Jubbulpore District.

No. 7951.—On being relieved by Senior Apothecary W. M. Mitchell, Assistant Surgeon Krishnaji Kashinath Gokhle, Officiating Civil Surgeon of Narsinghpur, is directed to do duty under the orders of the Civil Surgeon, Nagpur.

No. 7981.—Surgeon-Captain R. C. Macwatt, Superintendent of the Jail and officiating Civil Surgeon, Raipur, availed himself, on the afternoon of the 15th ultimo, of the ten days' Examination leave granted him by Notification No. 6900 dated the 19th September last, making over charge of the office of Civil Surgeon to Surgeon-Major H. P. Jervis.

No. 8010.—With reference to Notification Nos. 7778 and 7780, dated the 24th ultimo, Senior ApothecaryW. M. Mitchell and Surgeon-Major A. Silcock respectively made over and resumed charge of the office of Civil Surgeon, Bilaspur, on the forenoon of the 20th idem.

No. 8011.—With reference to Notifications Nos. 7779 and 7780, dated the 24th ultimo, Senior Apothecary W. M. Mitchell and Surgeon-Major A. Silcock respectively made over and resumed executive and medical charge of the Bilaspur Jail on the forenoon of the 20th idem.

No. 8013.—On return from the leave granted him by Notification No. 6815, dated the 15th September last, Surgeon-Captain W. L. Price, Civil Surgeon was placed on special duty at Seoni for the period from the 24th to the 27th ultimo (both dates inclusive).

No. 91.—First Class Civil Hospital Assistant Sheikh Subrati, attached to the Burhanpur Dispensary, Nimar District, on being relieved by Assistant Surgeon Malhar Narain Korde, is appointed to the Main Dispensary, Raipur, in place of Assistant Surgeon Omesh Chunder Mitter.

No. 92.—Second Class Civil Hospital Assistant Nanak Pershad was directed to do duty at the Nagpur Central Jail, with effect from the 18th to the 23rd August 1893.

No. 93.—One month's privilege leave is granted to 2nd Class Civil Hospital Assistant Kali Krishna Das, attached to the Heude Bansilal Dispensary, Nagpur District, with effect from the 5th November 1893, or from the subsequent date on which he may be permitted to avail himself of it.

Third Class Civil Hospital Assistant Kunj Behari Lall, doing duty under the orders of the Civil Surgeon, Nagpur, is temporarily posted to the Heude Bansilall Dispensary, Nagpur District, until further orders.

No. 8124.—With reference to Notification No. 7780, dated the 24th ultimo, Senior Apothecary W. M. Mitchell assumed charge of the office of Civil Surgeon, Narsinghpur, from Assistant Surgeon Krishnaji Kashinath Gokhle, on the afternoon of the 29th idem.

No. 8257.—Assistant Surgeon Malhar Narain Korde, doing duty under the orders of the Civil Surgeon, Nimar, at the Burhanpur Dispensary, is premanently posted to that Dispensary.

No. 8258.—On being relieoed by Civil Hospital Assistant Sheikh Subrathi, Assistant Surgeon Omesh Chander Mitter, attached to the Main Dispensary, Raipur, is directed to do duty at the Mayo Hospital, Nagpur, until further orders.

No. 8335.—Surgeon-Captain W. L. Price returned from the special duty at Seoni on which he was placed by Notification No. 8013 dated the 2nd instant, and resumed charge of the office of Clvil Surgeon, Chhindwara, from Assistant Surgeon Lakhmi Narain Choudri on the forenoon of the 30th ultimo.

No. 8336,—Surgeon-Captain R. C. Macwatt returned from the exmination leave granted him by Notificatton No. 6900, dated the 19th September last, and resumed charge of the office of Civil Surgeon Raipur, from Surgeon-Major H. P. Jervis on the forenoon of the 3rd instance.

No. 8364.—Surgeon-Lieutenant-Colonel B. Evers returned from the privilege leave granted him by Notification No. 5542, dated the 26th July last, and resumed charge of the office of Civil Surgeon, Raiqur, from Surgeon-Captain R. C. Macwatt on the afternoon of the 7t instance.

No. 8365.—Assistant Surgeon Surendra Nath Barat, who was appointed by Notification No. 7855, dated the 26th ultimo, to the Main Dispensary, Saugor, did duty under the orders of the Civil Surgeon, Narsinghpur, from the forenoon on the 17th to the afternoon of the 27th October 1893.

No. 8366.—With reference to Notificatfon No. 7855, dated the 26th ultimo. Assistant Surgeons Gopal Chunder Ghose and Surendra Nath Barat respectively made over and assumed charge of the Main Dispensary, Saugor, on the afternoon of the 18th idem.

No. 94.—First Class Ctvil Hospital Assistant Sadut Hus sain, attached to the Banda Branch Dispensary, Sugor District, is transferred to the Rahli Branch Dispensary, Saugor District.

Second Class Civil Hospital Assistant Ramlal, attached to the Rehli Branch Dispsnsary, Saugor District, is transferred to the Banda Branch Dispensary Saugor District.

ASSAM GAZETTE.

No. 162.—Third-grade Hospital Assistant Nil Kanta Bhuttercharjea is permitted to resign the Government service with effect from the date he is relieved of his duties.

No. 163.—Third-grade Hospital Assistant Kali Mohan Sen (2nd), a Supernumerary at Nowgong, is appointed temporarily to the medical charge of the Tilahi Dispensary.

No. 164.—Sick leave for three months, under article 893 of the Civil Service Regulations, is granted to Third-grade Hospital Assistant Balaram Das, in medical charge of the Jagi Dispensary in the Nowgong district, with effect from the date he is relieved of his duties.

No. 165.—Third-grade Hospital Assistant Nabin Chandra Datta, a Supernumerary at Dibrugarh, is transferred to Nowgong and appointed to the medical charge of the Jagi Dispensary inthat district, during the absence on leave of Hospital Assistant Balaram Das or until further orders.

No. 166.—Third-grade Hospital Assistant Parbati Nath Datta, a Supernumerary at Gauhati, is transferred to Nowgong and posted for duty as a Supernumerary under the orders of the Civil Surgeon there.

No. 167.—Babu Khetra Nath Ray, a passed student of the Dacca School of Medicine, is appointed on probation for six months a Civil Hospital Assistant in Assam, *vice* First-Grade Hospital Assistant Mati Ram Das, deceased, and is appointed temporarily to the subordinate medical charge of the Nowgong Jail and Hospitals.

No. 168.—Third-Grade Hospital Assistants Mahim Chandra Chaturji (1st) and Chandra Kisore Sen (1st) having passed the Septennial Professional Examination for the promotion of Hospital Assistants, in accordence with the provisions laid down in G. G. O. No. 399 of 1854, are promoted to be Second-Grade Hospital Assistants, with effect from the 24th September 1893 and 3rd October 1893 respectively.

No. 169.—Babu Gunabhi Ram Das, a passed student of the Dacca School of Medicine, is appointed on probation for six months a Civil Hospital Assistant in Assam, *vice* Third-Grade Hospital Assistant Nil Kanta Bhattacharjea, resigned, and is posted to Tezpur for duty as a Supernumerary.

No. 170—Third-grade Hospital Assistant Mahim Chandra Datta, a Supernumerary at Tezpur, is transferred to Goalpara, and posted for duty as a Supernumerary under the orders of the Civil Surgeon there.

No. 171.—Third-grade Hospital Assistant Jamini Kanta Dhupi, a Supernumerary at Sylhet, was placed in subordinate medical charge of the Sylhet Jail and Police Hospitals from 28th April to 9th June 1893, both days inclusive.

No. 172.—Privilege leave of absence for three months, under article 291 of the Civil Service Regulations, is granted to Third-grade Hospital Assistant Mohim Chandra Chatterji (2nd), in medical charge of the Kathigora Coolie Depot and Dispensary in the Cachar district, with effect from the 15th October 1893.

No. 174.—The undermentioned Hospital Assistants have passed the English Qualification Examination according to the test laid down in G. G. O. No. 945, dated the 11th October 1868.

Rank and Name.	Date of Rank.	Date of passing the English Qualification Examination.
Third-grade Hospital Assistant Bipin Bihari Chakravarti.	8th November 1886.	28th September 1893.
Third-grade Hospital Assistant Bisseswar Banerji.	16th July 1888.	... 15th August 1893.

No. 175.—Babu Jadab Gobinda Biswas is confirmed as Third-grade Civil Hospital Assistant in Assam, with effect from the 29th September 1893, *vide* Medical Department Notification No. 24, dated the 16th March 1893, published in the *Assam Gazette* of the 18th idem.

BURMA GAZETTE.

No. 244.—Under the provisions of Article 371 (*a*) of the Civil Service Regulations furlough for one year is granted to Second Grade Assistant Surgeon Mohendra Nath Roy, Resident Medical Officer, Rangoon General Hospital, with effect from the date on which he is relieved of his duties.

No. 245.—Local Assistant Surgeon Maung Chit Tun is transfered from Moulmein to be Civil Surgeon, Mergui, *vice* Second Grade Apothecary R. T. Darwin, who proceeds on leave.

No. 247.—Consequent on the return from furlough of Surgeon-Lieutenant-Colonel H. Johnstone the following postings and transfers of Medical Officers are ordered :—

Surgeon-Lieutenant-Colonel H. Johnstone to be Civil Surgeon, Rangoon.

Surgeon-Major S. H. Dantra, officiating Civil Surgeon, Rangoon, to revert to his substantive appointment of Junior Civil Surgeon, Rangoon.

Surgeon-Captain J. H. Sellick, officiating Junior Civil Surgeon, Rangoon, to be Civil Surgeon, Myingyan.

Surgeon-Captain R. H. Castor, Civil Surgeon, Myingyan, to be Civil Surgeon, Yamethin.

No. 480.—Second Grade Hospital Assistant Ramaya Nagappa, No. 157, relinquished charge at the Civil Hospital, Kindat, Upper Chindwin district, on the afternoon of the 30th September 1893, and assumed medical charge of the Darjeeling coolies proceeding to Fort White on the same date.

No. 481.—Under paragraph 7 of Government of India, Home Department Resolution No. 16, dated the 19th January 1878, Second Grade Hospital Assistant Abdul Guffoor assumed additional charge of the Civil and Jail Hospitals, Kindat, Upper Chindwin district, on the afternoon of the 30th September 1893.

No. 482.—Third Grade Hospital Assistant No, 72, J. N. Bhattacharji relinquished, charge of the duties of Medical Officer, Papun, Salween district, on the afternoon of the 5th October 1893, and assumed charge at the General Hospital, Rangoon, on the forenoon of the 14th October 1893.

No. 483.—Third Grade Hospital Assistant, No. 127, Maung Po Hla, on transfer to Ye-u, relinquished charge at the General Hospital, Rangoon, on the forenoon of the 14th October 1893.

No. 484.—Third Grade Hospital Assistant M. J. Sivaraja Pillay relinquished, and Senior Military Hospital Assistant Manickum Pillay, assumed, charge at the Civil Dispensary Laikaw, Southern Shan States, on the forenoon of the 24th September 1893.

No. 485 —Senior Hospital Assistant No. 98, Shaik Asgur Ally, on return from leave granted him in Notification No. 299, dated the 6th July 1893, assumed charge at the Jail Hospital Rangoon, on the forenoon of the 28th September 1893.

No. 486.—Senior Hospital Assistant, No. 98, Shaik Asgur Ally relinquished charge at the Jail Hospital, Rangoon, on the afternoon of the 29th September 1893, and assumed charge at the Civil Hospital, Bassein, on the forenoon of the 4th October 1893.

No. 487.—Surgeon-Captain B. W. Johnson, A.M.S., and Brigade-Surgeon-Lieutenant-Colonel J. Smith, I.M.S., respectively relinquished and assumed as a collateral charge the duties of the Civil Surgeon, Meiktila district, on the forenoon the 18th October 1893.

No. 488.—Third Grade Hospital Assistant, No. 87, Brindaban Dass, on transfer to Mandalay, made over charge at the Police Hospital, Lashio, on the forenoon of the 5th October 1893.

No. 489.—Third Grade Hospital Assistant, No. 94, Mahomed Wasil, on transfer to Civil Dispensary, Maungdaw, Akyab district relinquished charge at the Civil Dispensary, Kyaukpyu, on the afternoon of the 11th October 1893.

No. 490.—Third Grade Hospital Assistant, No. 100, Pyabri Mohun Barua, relinquished charge at the Jail Hospital, Insein on the afternoon of the 9th September 1893, and assumed charge at the police Hospital, Lashio, on the forenoon of the 5th October 1893.

No. 491.—Third Grade Hospital Assistant, No. 86, Narayan Prasad Mahapatra, attached to the Civil Dispensary, Minhla, Thayetmyo district, having qualified himself in English, is entitled to the usual English qualification allowance, with effect from the 16th October 1893.

No. 492.—Third Grade Hospital Assistant, No. 126, Jogendra Nath Roy Chowdry, attached to the Outpost Hospital, Mahlaing Meiktila district, having qualified himself in English, is entitled to the usual English qualification allowance, with effect from the 16th October 1893.

No. 493.—Third Grade Hospital Assistant, No. 105, Hem Chandra Koyal, attached to the Police Hospital, Monywa, Lower Chindwin district, having qualified himself in English, is entitled to the usual English qualification allowance, with effect from the 16th October 1893.

No. 494.—Surgeon-Major E. P. Frenchman made over and Surgeon-Major P. W. Dalzell, M.B, on return from leave assumed charge of the duties of the Civil Surgeon, Bassein district, on the afternoon of the 19th October 1893.

No. 495.—Surgeon-Major E. P. Frenchman availed himself of the privilege leave granted him in General Department Notification No. 237, dated the 12th October 1893, on the forenoon of the 20th October 1893.

No. 496.—Local Assistant Surgeon Maung Chit Htun, on transfer to Mergui, relinquished charge at the General Hospital, Moulmein, on the afternoon of the 19th October 1893.

No. 497.—First grade Hospital Assistant, No. 11, Jan Mahomed, on availing himself of six months' leave on medical certificate, relinquished charge at the Police Hospital, Mandalay, on the forenoon of the 14th October 1893.

No. 498.—First grade Hospital Assistant, No. 12, S. L. Thomas, on return from leave granted him in this office Notification No. 364, dated the 10th August 1893, assumed charge at the General Hospital, Moulmein, on the forenoon of the 20th October 1893.

No. 499.—Third grade Hospital Assistant, No. 62, Ahmed Hussain, on availing himself of three months' privilege leave relinquished charge at the Jail Hospital, Mandalay, on the forenoon of the 17th October 1893.

No. 500.—Third grade Hospital Assistant, No. 108, Maung Saw Shwe, on transfer to Moulmein, relinquished charge at the Civil Dispensary and Jail Hospital, Mergui, on the afternoon of the 18th October 1893.

No. 264.—Assistant Apothecary R. H. Nailer is transferred from Pyinmana to Wakema as Civil Surgeon.

No. 501.—Surgeon-Major S. H. Dantra, M.D., made over, and Surgeon-Lieutenant-Colonel H. Johnstone, M.D., on return from furlough resumed, charge of the duties of Civil Surgeon, Rangoon, on the afternoon of the 21st October 1893.

No. 502.—Surgeon-Captain J. H. Sellick, M.B., and Surgeon-Major S. H. Dantra, M.D., respectively made over and assumed charge of the duties of the Junior Civil Surgeon, Rangoon, on the afternoon of the 21st October 1894.

No. 503.—Surgeons-Captain R. H. Castor and J. H. Sellick, M.B., respectively made over and assumed charge of the duties of the Civil Surgeon, Myingyan district, on the forenoon of the 28th October 1893.

No. 504.—With referrence to clauses 5 and 6 of General Department Notification No. 239, dated the 19th October 1893, First Grade Assistant Apothecary R. H. Nailer made over charge of the duties of Civil Surgeon, Pyinmana district, on the afternoon of the 30th October 1893.

No. 505.—First Grade Assistant Apothecary G. R. Gaudoin and Surgeon-Captain R. H. Castor, respectively made over and assumed charge of the duties of Civil Surgeon, Yamethin district, on the afternoon of the 4th November 1893.

No. 506.—With reference to Notification No. 496, dated the 2nd November 1893, Local Assistant Surgeon Maung Chit Htun assumed charge of the duties of Civil Surgeon, Mergui district, on the forenoon of the 2nd October 1893.

No. 507.—First Grade Hospital Assistant, No. 1088, D. M. Job, on return from leave granted him in Notification No. 365, dated the 10th August 1893, assumed charge at the General Hospital. Mandalay, on the forenoon of the 28th October 1893.

No. 508.—First Grade Hospital Assistant, No. 13, F. St. Hilbert, on availing himself of 12 months' furlough, relinquished charge at the General Hospital, Moulmein, on the afternoon of the 31st October 1893.

No. 509.—Second Grade Hospital Assistant, No. 123, Mahomed Amir, attached to the Police Hospital, Bhamo, having qualified himself for promotion to the next higher grade is entitled to the pay of the same from the 16th October 1893.

No. 510.—Second Grade Hospital Assistant, No. 1160, T. R. Strinivasa, on availing himself of three months' privilege leave, relinquished charge at the Civil Dispensary and Jail Hospital, Ye-u, on the forenoon of the 22nd October 1893.

No. 511.—Second Grade Hospital Assistant, No. 468, Jamit Roy relinquished charge at the Civil and Jail Hospitals, Monywa, Lower Chindwin district, on the forenoon of the 29th August 1893, and assumed charge of the duties of Medical Officer, Papun, Salween district, on the afternoon of the 5th October 1893.

No. 512.—Second Grade Hospital Assistant, No. 124, Ahmed Khan, on transfer to Bhamo, relinquished charge at the Police and Jail Hospitals, Yamethin, on the afternoon of the 1st November 1893.

No. 513.—Third Grade Hospital Assistant No. 94, Mahomed Wasil relinquished charge at the Civil Dispensary, Kyaukpyu, on the afternoon of the 11th October 1893, and assumed charge at the Civil Dispensary, Maungdaw, Akyab district, on the afternoon of the 19th October 1893.

No. 514.—With reference to Notification No. 483, dated the 19th October 1893, Third Grade Hospital Assistant, No. 127, Mauug Po Hla, assumed charge at the Civil Dispensary, Ye-u, on the forenoon of the 22nd October 1893.

No. 515.—Under paragraph 7 of Government of India Home Department Resolution No. 16, dated the 9th January 1878, Third Grade Hospital Assistant No. 127, Maung Po Hla, assumed as an additional duty charge of the Jail Hospital, Ye-u, on the forenoon of the 22nd October 1893.

No. 516—Third Grade Hospital Assistant Brindaban Dass relinquished charge at the Police Hospital, Lashio, on the forenoon of the 5th October 1893.

No. 517.—With reference to Notification No. 253, dated the 1st June 1893, Third Grade Hospital Assistant, No. 87, Brindaban Dass assumed charge at the Police Hospital, Lashio, on the forenoon of the 30th June 1893.

No. 518.—Third Grade Military Hospital Assistant V. A. Narainasawmy made over, and Third Grade Military Hospital Assistant Laskshina Narainasawmy assumed, charge at the Outpost Hospital, Kalewa, Upper Chindwin district, on the forenoon of the 14th October 1893.

No. 519.—Third Grade Hospital Assistant A. B. Mukerjie relinquished charge at the Police Hospital, Bhamo, on the forenoon of the 14th October, 1893, and assumed charge at the Outpost Hospital, Monaung, Bhamo district, on the afternoon of the 16th October 1893.

No. 520.—Under endorsement No. 3186, dated Simla, the 4th August 1893, from the Secretary to the Surgeon-General with the Government of India, the services of Third Grade Civil Hospital Assistant Syed Abdul Gunni, of the North-Western Provinces provincial establishment, are transferred permanently to the Civil Medical Department, Burma.

No. 521.—Third Grade Hospital Assistant, No. 112, Danashwar Panda, on transfer to Bhamo, relinquished charge of his duties at the General Hospital, Mandalay, on the afternoon of the 31st October 1893.

No. 522.—B. Pydiah Naidu, passed Medical Pupil, is appointed a Third Grade Hospital Assistant with English qualification, and posted to Kyaukse district.

No. 523.—With reference to the above notification, Third Grade Hospital Assistant B. Pydiah Naidu assumed charge at the Civil and Police Hospitals, Kyaukse, on the forenoon of the 24th October 1893.

No. 524.—Under paragraph 7 of Government of India Home Department Resolution No. 16, dated the 9th January 1878, Third Grade Hospital Assistant B. Pydiah Naidu assumed, as an additional duty, charge of the Lock-up at Kyaukse on the forenoon of the 24th October 1893.

No. 34.—Hospital Assistant Hushmut Ali and Local Assistant Surgeon Maung Chit Htun respectively made over and received the executive and medical charge of the Mergui District Jail on the forenoon of the 2nd October 1893.

No. 35.—Surgeons-Captain R. H. Castor, I.M.S., and J. H. Sellick I.M.S., respectively made over and assumed charge of the executive and medical charge of the Myingyan Central Jail on the afternoon of the 17th October 1893.

No. 36.—First Grade Assistant Apothecary G. R. Gaudoin and Surgeon-Captain R. H. Castor respectively made over and assumed charge of the executive charge of the Yamethin Jail on the afternoon on the 4th November 1893.

No. 268.—At the Departmental Exmination held at Rangoon on the 2nd November 1893 the following candidates passed in Burmese by the standards specified :—

Lower Standard.

Surgeon-Captain G. J. H. Bell.

Apothecary C. G. Roberts, Civil Surgeon.

Elementary Standard.

Apothecary R. H. Nailer, Civil Surgeon.

Mr. C. David Pillay, Hospital Assistant.

Mr. A. Samuel Pillay, Hospital Assistant,—*with great credit.*

No. 272.—Consequent on the return from leave of Surgeon-Major O. Baker and Surgeon-Captain R. E. S. Davis, the following postings and transfers of Medical Officers are ordered.:—

Surgeon-Major O. Baker to be Junior Civil Surgeon, Rangoon.

Surgeon-Major S. H. Dantra, officiating Junior Civil Surgeon, Rangoon, to be Civil Surgeon, Mandalay.

Surgeon-Captain C. S. Rundle, Civil-Surgeon, Mandalay, to be Civil Surgeon, Thayetmyo.

Surgeon-Captain A. R. P. Russell, Civil Surgeon, Thayetmyo, to be Civil-Surgeon, Toungoo.

Civil-Surgeon R. E. S. Davis to be Superintendent of the Rangoon Central Jail, *vice* Surgeon-Captain J. W. Wolfe.

Surgeon-Captain J. W. Wolfe to be Secretary to the Inspector-General of Jails, with Civil Medical Administration, *vice* Surgeon-Captain U. N. Mukerji.

At a special meeting held on the 9th November 1893 the Bassein Municipal Committee elected Surgeon-Major P. W. Dalzell to be their Vice-President in the place of Surgeon-Major E. P. Frenchman, who has left the station.

G. O. C. C.

866. The undermentioned officers have leave of absence:—

The leave to England on urgent private affairs granted to Surgeon-Captain F. J. W. Stoney, Army Medical Staff, in G. O. C. C. No. 642 of 1893, is extended to the 7th of January 1894.

867. Assistant-Apothecary G. W. Davis is granted six months' leave in India, on medical certificate, under the Leave Rules of 1889.

868. Assistant Apothecary W. C. M. Charters is granted six months' leave in India, on medical certificate, under the Leave Rules of 1889.

887. The Commander-in-Chief in India is pleased to make the following appointments.—

22nd Bengal Infantry.—Surgeon-Captain G. H. Frost from the officiating medical charge of the 21st Bengal Infantry, to the officiating medical charge of the regiment, *vice* Surgeon-Captain H. B. Luard.

15th Bengal Lancers.—Surgeon-Lieutenant B. G. Seton, from the officiating medical charge of the 2nd Punjab Infantry, to the officiating medical charge of the regiment, *vice* Surgeon-Captain E. Hudson.

2nd Punjab Infantry.—Surgeon-Lieutenant P. St. C. More, to the officiating medical charge of the regiment, *vice* Surgeon-Lieutenant B. G. Seton.

912. With the approval of Government the undermentioned Hospital Assistants of the Subordinate Medical Department, Bengal, are permitted to resign the service.

No. 301 Hospital Assistant ... Mehrban Ali

" 544 " " ... Gokul Chand.

924. Assistant Apothecary S, T. Dean is granted three months' leave in India, on medical certificate, under the Leave Rules of 1875.

Surgeon-Colonel L. D. Spencer, Principal Medical Officer, Presidency District, is appointed to officiate as Principal Medical Officer, Punjab Frontier Force, *vice* Surgeon-Colonel R. Harvey, D.S.O., transferred to officiate in civil employ.

The above transfer is made solely in the interests of the public service.

932. Surgeon-Major J. A. Cunninghum. M.D., Joint Civil Surgeon of simla, is appointed to the medical charge of the Army Head Quarters' Staff and establishments remaining at Simla during the winter, with effect from the 2nd November 1893.

953. The undermentioned Native Military Pupils having passed thair final exmination are admitted in to the service as Sub- Hospital Assistants, with effect from the 29th September 1803.

783 Behari Lal.*
784 Awadh Behari Lal.*
*Passed in English

949. Apothecary J. C. Bailey is granted six months' leave in India, on medical cretificate, under the Furlough Rules of 1874.

12th Bengal Cavalry.—Surgeon-Cptain S. B. Smith, from the officiating medical charge of the 32nd Bengal Infantry, to the officiating medical charge of the regiment, *vice* Surgeon-Major W. A. Simmonds.

952. The undermentioned officer has been declared by the Board of Exminers, Calcutta, to have passed the examination specified against his name:—

Surgeon-Lieutenant C. G. Robson-Scott, I.M.S. } Lower Standard Hindustani.

1st Battalion, 1st Gurkha Rifles.—Surgeon-Major A. Duncan, from the medical charge of the Corps of Guides to the officiating medical charge of the battalion, *vice* Surgeon-Lieutenant-Colonel A. B. Seaman.

Surgeon-Major Duncan retains a lien on his permanent appointment in the Corps of Guides.

Acknowledgments.

NOTICES TO CORRESPONDENTS.

Dr. Rutherford Morison.—Many thanks for your paper; it will appear in our next issue.

M. D.—Too late for this issue.

A. S. R.—Many thanks for your kind wishes.

F. C. N.—See our issue for October 1892.

V. S. P.—Try again in the manner suggested by your friend.

Ship Surgeon.—We have received your paper and will try and insert it in our next issue.

Assistant Surgeon.—Read our editorials in this issue; you will see we have dealt with the subject.

M. R. C. S.—We regret we cannot publish what you have sent, as we do not consider it suitable; try a lay journal.

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Letters and Communications have been also recieved from:—Surgeon-Lieutenant-Colonel A. Crombie, I.M.S., Calcutta; Dr. Rutherford Morison M.B., F.R.C.S., Newcastle-on-Tyne, England; Dr. Arnold Caddy, F.R.C.S.E., Calcutta; Dr. K. N. Bhadurji M.D., (Lond), Bombay; Dr. N. N. Katrak, Bombay; Dr. Kanny Lall Dey, C.I.E., Madhupore; Dr. A. P. Dass, L.M.S., Calcutta; Dr. R. G. S. Chew, M.D., Calcutta; Dr. A. L.

Sandell, M.B., C.M., Calcutta; Dr. J. C. Day, M.B., Assam; Dr. Leonard A. Bidwell, F.R.C.S., London; Dr. Lennox Moore, London; Surgeon-Captain B. D. Basu, I.M.S. Poona; Dr. Harris, Madras; Dr. Sripati Sahai, Mau-Ranipore; Secretary, Royal College of Physicians, London; Dr. Phagan Lall, Rajmehal; Dr. T. M. Shah, Junagadh, Dr. N. C. Mittra, M.B., M.A., Ranchee; Hospital Assistant Amrito Lall Mondal, Rajmehal; Dr. V. J. Pillai, Madras; Dr. Egappa L.M.S., Dachepalle; Dr. R. C. Bathir-Rao, Mylapulyam; Dr. Green, London; Dr. Coopoosammy, Tuticorin; Dr. Ghosal, Barisal.

Periodicals.—The Lancet—The British Medical Journal—The Edinburgh Medical Journal—Indian Medical Gazette—Journal de Mèdicine de Paris—Modern Medicine—Australian Medical Journal—The Sanitary Journal—The Medical and Surgical Journal—The Medical Times and Register—The Lancet-Clinic—The Medical Bulletin—The Medical and Surgical Reporter—The New York Medical Journal—The Family Doctor—The Medical Week—Health Messenger—Health—The Medical Record—British and Colonial Druggist—Chemist and Druggist—The Medical Review—New Orleans Medical and Surgical Journal—The Medical Monthly—The Scalpel—The Humanitarian—The Popular Science Monthly—The Sanitary Record—The Medico-Surgical Bulletin—The Southern Medical Record.—The Sanitarian—Doctor's Weekly—The Post Graduate—The Therapist—The Universal Medical Journal—The Medical Compend—The Medico-Chirurgical Review—The Medical Fortnightly—Notes on New Remedies.—The American Therapist.

Books recieved.—Asiatic Cholera, By A. J. Wall, M.D., F.R.C.S.E., (London, H. K. Lewis)—Transactions of the Calcutta Medical Society (Thacker Spink & Co., Calcutta)—Notes on Fevers By Dr. N. N. Katrak (Dufter Ashera Press, Bombay).

Government Gazettes.—Gazettes of the Government of India, N. W. P. and Oudh, Burmah, Central Provinces, and Assam—G. O. C. C.

Newspapers.—The Broad Arrow—The Home News—The Indian Daily News—The Statesman—The Eastern Guardian—The Evening Star—Newman's Bradshaw—Hope—The East—Bombay Native Opinion—The Bangalore Spectator—Nagpur and Berar Times—Progress—Punjab Patriot—Arrakan News—Rangoon Gazette Weekly Budget—The Express—Madras Advertiser—Behar Herald and Indian Chronicle—Bombay Guardian—Banner of Asia—Tribune—Beluchistan Gazette—Western Wit and Wisdom—Indian Empire—Gwalior Gazette—Eurasian Recorder—People's Friend—India Watchman—Messenger of Light—Indian Nation—Indian Union—Poona Observer—National Guardian—Indian Engineering—Courier—The Argus—The Bengal Times—Signs of the Times—The Indian Textile Journal—The Amrita Bazaar Patrika (Weekly Edition)—The Kathiawar News.

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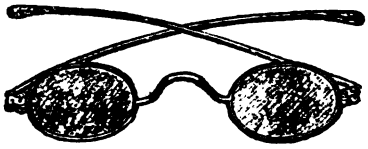
CATARACT  SPECTACLES

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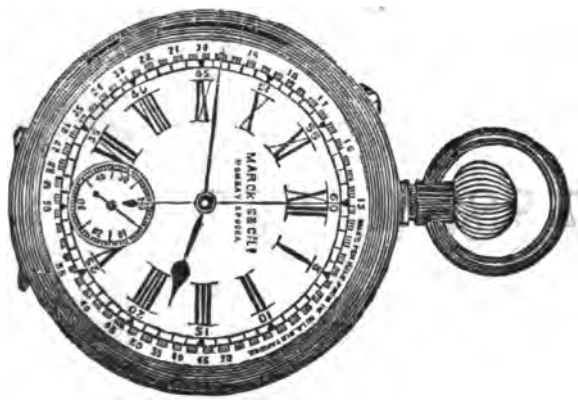

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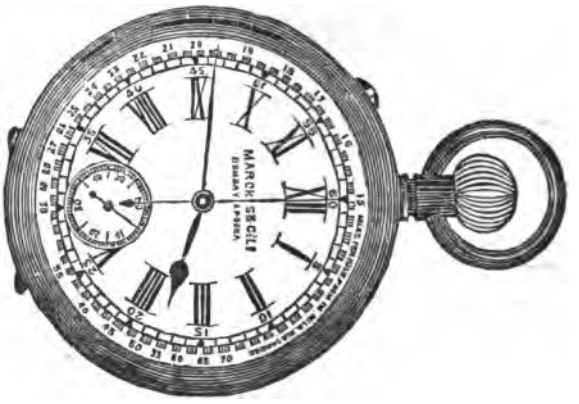

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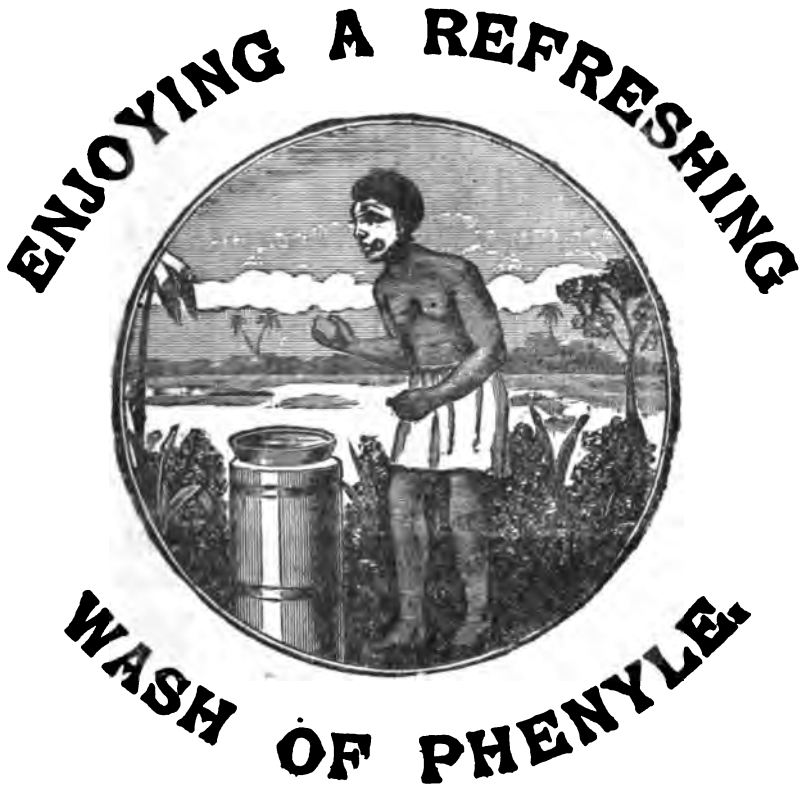

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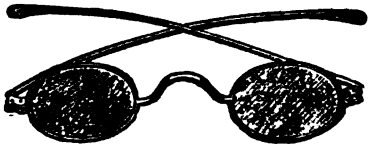
CATARACT  SPECTACLES

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MAY 27 1893

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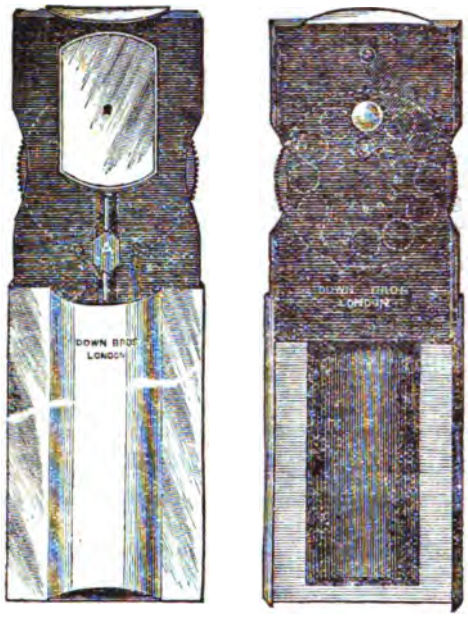

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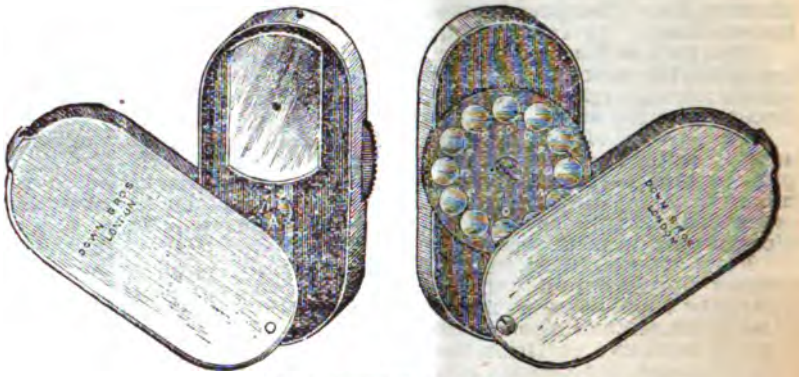

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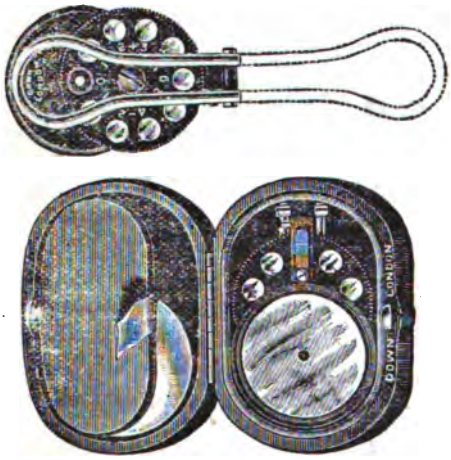
Suggested by CHARLES OLDHAM, F.R.C.S., of Brighton.



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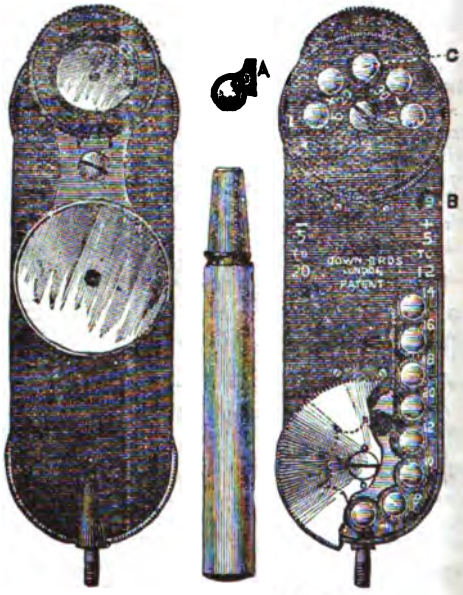

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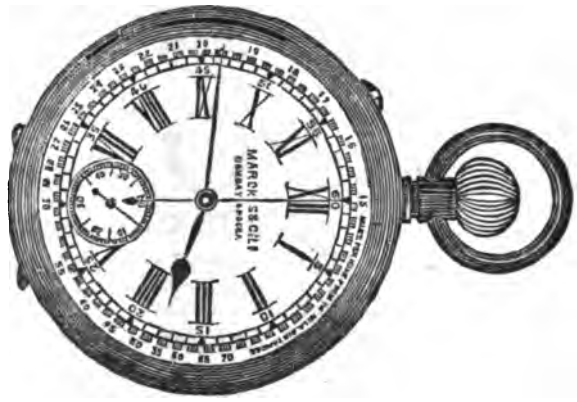

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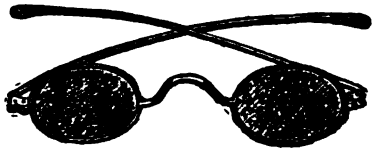
CATARACT  SPECTACLES

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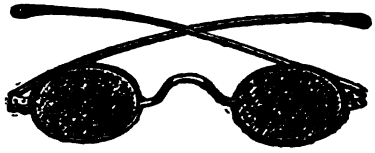
CATARACT  SPECTACLES

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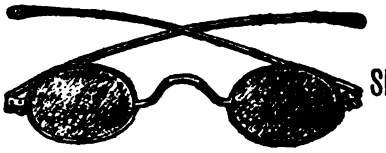
CATARACT  SPECTACLES

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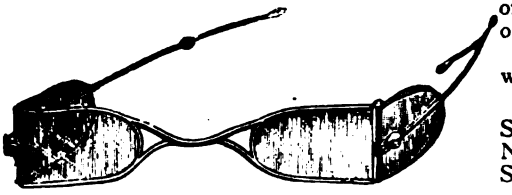

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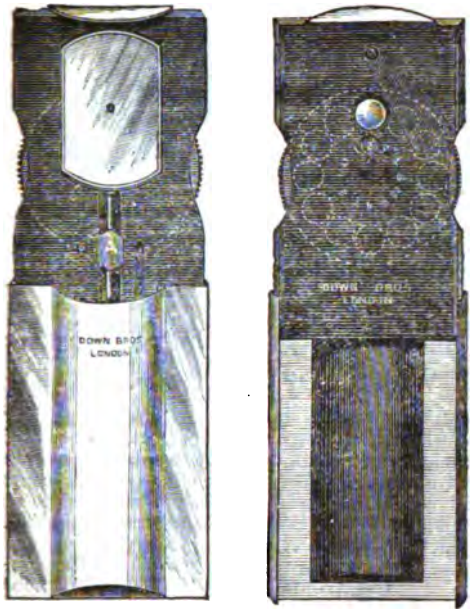

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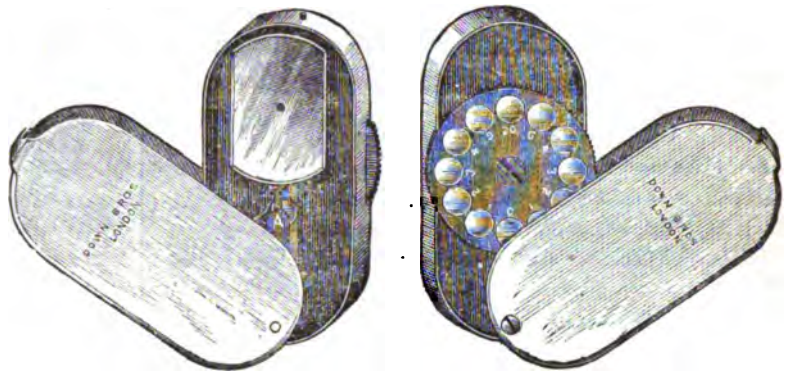

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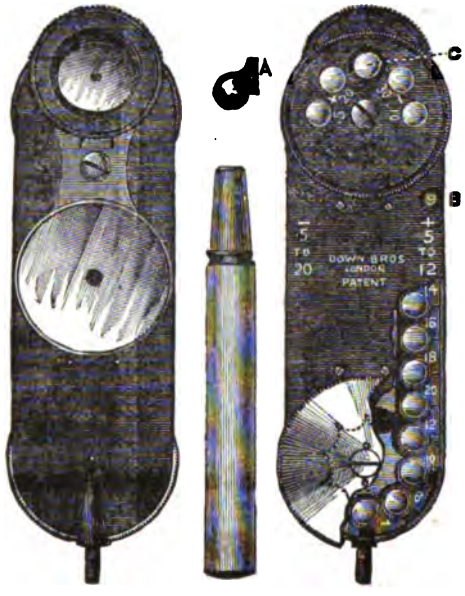

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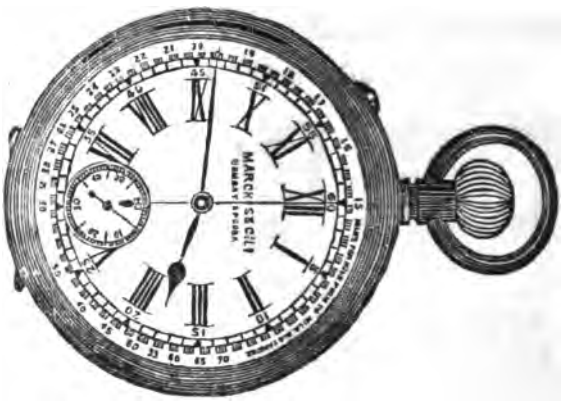

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Punch	15	0	14	0	11	0
St. James' Budget	28	0	26	0	16	0
Saturday Review	28	0	26	0	16	0
Scientific American	16	0	14	0	11	0
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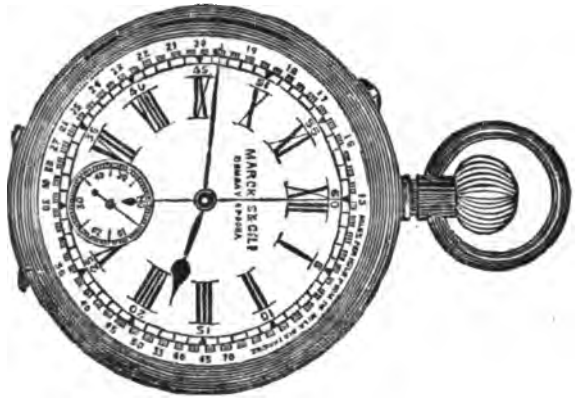

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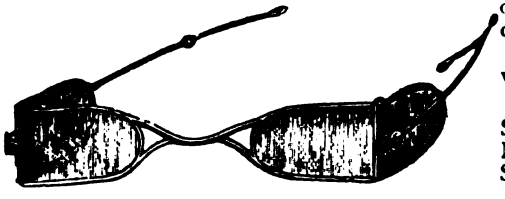

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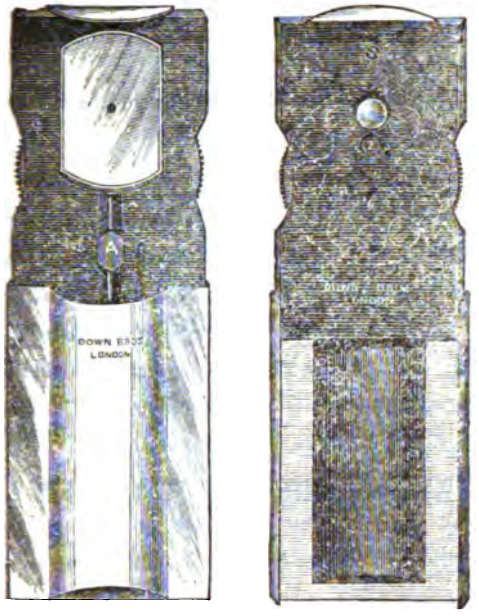

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THESE Ophthalmoscopes have been designed with the object of at once forming a portable and efficient instrument, and one inseparable from its case, thereby minimising the risk of breakage, and keeping the lenses clear and free from dust. The case itself forms the handle, and thus saves the trouble of screwing and unscrewing. The sectional mirror is raised by means of the button (A), and can then be turned so as to be useful for direct or indirect examination. The diaphragm is provided with convex and concave lenses + 1, 2, 3, 4, 9, 20, and — 1, 2, 3, 4, 6. The glasses and workmanship are of the highest quality. The two forms illustrated above possess equal advantages, the choice being merely a matter of individual preference.

IMPROVED PORTABLE OPHTHALMOSCOPE.

Suggested by CHARLES OLDHAM, F.R.C.S., of Brighton.

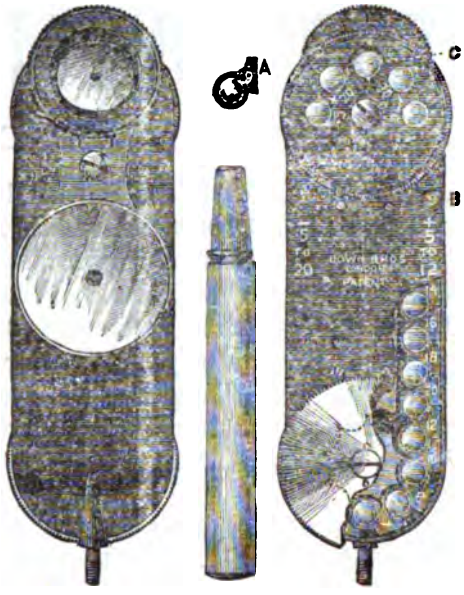
A most convenient and compact Instrument. Fitted with revolving diaphragm, containing five convex and four concave glasses—*viz.*, + 1, 2, 3, 4, and 6, and — 1, 2, 4, and 8. Size, 2¼ by 1½ in. Weight, 2 oz.

"We have used it repeatedly and have been quite satisfied with its action."—Vide *The Lancet*, Nov. 27th, 1886.

PRICE 25s.

IMPROVED MORTON'S OPHTHALMOSCOPE.

(DOWN BROS. PATENT.)



PRICE £3 3s.

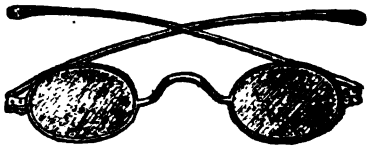
THIS figure represents an improvement on the well-known Morton's Ophthalmoscope; it consists of a new form of lens holder, which forms a link in the chain of lenses, and answers the double purpose of holding a lens and of indicating the power of a lens; this is effected by a number engraved on the wing attached to the lens holder (A); this wing does not at all impede the passage of the chain of lenses along the trough or link race, and it is impossible for the order in which the chain travels to become by any means disarranged; the number engraved on the wing is shown at the sight-hole (B) and represents the power of the lens appearing at the reading aperture (C), thus dispensing with the complicated arrangement of the time wheel used to indicate the power of the lenses in the older form of Ophthalmoscopes.

DOWN BROTHERS, Surgical Instrument Manufacturers,

5 & 7, ST. THOMAS'S STREET, LONDON, S.E.

(OPPOSITE GUY'S HOSPITAL).

TO OPHTHALMIC AND CIVIL SURGEONS.

CATARACT  SPECTACLES

FOR PAUPER PATIENTS.

STRONG Spectacles for the use of Pauper Patients who have been operated on for Cataract, in quantities (not less than one dozen), Rs. 15 per dozen. These Spectacles have non-corrosive metal mounts, and will last for years.

THEY SUPPLY A LARGELY FELT WANT.

BEST CROWN GLASS SPECTACLES (any focal power) in strong non-corrosive metal mounts. Rs. 5 per pair.

SECOND QUALITY CROWN GLASS SPECTACLES (any focal power) in strong non-corrosive metal mounts, Rs. 2 per pair.

COMBINED SPHERICO-CYLINDRICAL LENSES for Astigmatic Cases.

COMBINED SPHERICO-PRISMATIC LENSES for Hypermetropic and Myopic Strabismus.

We work in our Bombay Factory any combination in above lenses, and can execute orders within three days of receipt.

Prescriptions for Spectacles accurately carried out. Surgeons requiring the loan of a set of trial lenses (of which we always keep several sets by us), can obtain the same immediately.

LAWRENCE & MAYO.,

Ophthalmic Opticians,

OPTICIANS TO THE PRINCIPAL OPHTHALMIC SURGEONS IN INDIA,

6, POULTRY, LONDON E.C. OLD COURT-HOUSE ST., CALCUTTA. RAMPART ROW, BOMBAY. MOUNT ROAD, MADRAS.

Price List of Pebble Spectacles free on application.

SETONNELL CHEMICAL AND ANALYTICAL LABORATORY.

110, LOWER CIRCULAR ROAD.

Work accurate—Reports speedy—Charges moderate.

Cash with order.

SPECIALITE.—Municipal and other DEFENCES in Courts or otherwise. CHEMICAL ANALYSES of Food-stuffs, Ghee, Milk, Minerals, Oils, Ores, Urine, Wines, &c., &c. *Excellency and accuracy of work proven by 156 successful Municipal Food-prosecutions* and Satisfaction to Mercantile Firms. RECOVERY of photographic wastes and all manner of Chemical Work.

For particulars regarding Drugs &c., made to order at the Laboratory, please apply to our Manager and Consulting Chemist.—

DR. ROGER G. S. CHEW, M.D., C.M., M.S.C.,

Late Food and Sanitary ANALYST, and *Gas and Water Examiner* to the Municipal Corporation of Calcutta.

ESTABLISHED 1880.

THE PEACOCK CHEMICAL WORKS,

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Diploma of Honor, Calcutta International Exhibition, 1883-'84.
Certificate with a Medal, Colonial and Indian Exhibition, London 1886.

We manufacture Tinctures, Syrups, and other Pharmaceutical preparations under careful supervision, and regularly import Medicine Chests, Medicines, Surgical, Dissecting and Midwifery Instruments, Appliances and Fittings, Druggists' Sundries, Perfumery, &c. &c., from celebrated Firms, both in England and the Continent. Nepal Musk, always kept in stock. The purity and superior quality of our own manufactures, as well as our imported goods, are guaranteed, and we have always met with the entire approval of our constituents. Our terms are moderate, and we make a special allowance to wholesale purchasers. Goods are sent by V. P. P., on receipt of one-half of the value of the order. A trial order is earnestly solicited.

The following is the remark of the Government of India respecting our preparations:—"These are manufactured by a Native Firm of Calcutta—The 'Peacock Chemical Works'—and are cheaper than European manufactured Tinctures. This is the only Native Firm which has wholesale dealings in Tinctures, and deserves encouragement."

S. DATTA & CO.,

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2 Million bottles consumed in 1879,
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IN ENGLAND ALONE.

APOLLINARIS,

THE QUEEN OF MINERAL WATERS.

Manufactured from Liquid Carbonic Acid and Natural Salts.

We lay great stress on the fact, that atmospheric air, the presence of which is the cause of making all Indian mineral waters foul and unhealthy, is extracted from this and other mineral waters, manufactured by us. The 'Times' writes,—"Invalids are recommended to drink it, to get rid of their ailments. Those who are in health hope to remain well, making Apollinaris their habitual beverage. The popularity of Apollinaris Water is chiefly due to its irreproachable character. The demand for it is great, and increasing."

Price, per dozen, Re. 1-8

We also supply Aerated, and Soda Water, Lemonade, Gingerade, Tonic, &c.,

From all of which the atmospheric air is extracted.

Apply to—HYGIENIC MINERAL WATER CO.,
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DOCTORS & PATIENTS.

NOW OPEN.

Thermal-Steel-Brine-Baths

CONTAINING

CARBONIC ACID,

FIRST AND ONLY

HYDROPATHIC ESTABLISHMENT IN INDIA

To all affected with Rheumatism, Neuralgia, Nervous Complaints, Malaria, Diseases of Women, Catarrh of the Bladder, Diseases of the Bowels, Diabetes, a perfect cure is now offered without being obliged to proceed to Europe.

Patients are requested to bring information from their own Physician according to which the Baths are prepared.

Open from 6 a. m., to 7 p.m., by appointment.

Ladies (from 10 to 3), for whom a female servant is always in attendance.

Apply to Manager,

56, BENTINCK STREET.

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ANTIPYRINE

(LION BRAND).

Protected by Royal Letters Patent.

An ESTABLISHED REMEDY, recommended by Authorities against

FEBRILE DISEASES,
NEURALGIAS,
CHOREA,
SUNSTROKE,
&c.

HEADACHE,
WHOOPING-COUGH,
AORTIC TUMOURS,
INFLUENZA (Grippe or Dengue),
&c.

Prepared under the authority and control of the Discoverer by

FARBWERKE, vorm. MEISTER LUCIUS & BRUNING, Hoechst o/M.

Purchasers should always inquire for "Dr. KNORR'S ANTIPYRINE (Lion Brand)." The labels bear in *fac simile* the signature of "DR. KNORR." Dr. Knorr's Antipyrine is readily and completely soluble in water.

ANTIPYRINE TABLETS. The cheapest and most convenient form of administration.
ANTIPYRINE TABLETS. Absolutely pure. Easily and completely soluble in water, wine, tea, or any other beverage.
ANTIPYRINE TABLETS. Packed in small tins of 20 or 80 each; 3 are equal to 15 grains of Dr. Knorr's Antipyrine. Dose for Adults, 2 to 3 Tablets; for Children, 1 to 2, according to age.

NEWEST PHARMACEUTICAL PRODUCTS of the Farbwerke, vorm. Meister Lucius & Bruning, Hoechst o/M:—

DERMATOL (Patent applied for). An odourless vulnerary, replacing Iodoform in most cases. Discovered by Drs. Heintz and Lebrecht.

Dermatol Dusting Powder.

A trustworthy remedy in wounds of all kinds, as well as in moist skin affections: blisters, abrasions, chafing of women and children, excoriation, etc. Excellent as a dusting powder for the feet.

BENZOSOL (Patented). Substitute for Creosote. Discovered by Dr. Bongartz.
IODOPYRINE (Iodantipyrine). Discovered by Dr. Ostermayer.
HYPNAL (Chloral-Antipyrine). Hypnotic.
All tins bear our Registered Lion Trade Mark. The labels have the signature of the respective discoverers.

TUMENOLUM-VENALE (Tumenol).
TUMENOL-SULPHON (Tumenol Oil).
TUMENOL-SULPHONIC-ACID (Tumenol Powder).
} (Patented.)

Recommmended by Professor Neisser at the Dermatological Congress in Leipzig.

TUBERCULOCIDIN of Professor Klebs.

With reference to the strength of the Tuberculocidin solution, we observe, that it is prepared from an equal volume of Tuberculin Koch. This strength Professor Klebs designates in his publications as 100 per cent. We now supply this solution in quantities of 30 ms, 1¼, 2½, and 6 drachms. Imitations must be carefully avoided. The Sole Manufacturers of the above named products are

FARBWERKE, vorm. MEISTER LUCIUS & BRUNING, Hoechst o/Main, who also supply:

BENZOIC ACID, from Toluol.
CHINOLIN, pur.
Do. puriss.
NAPHTHOL, chem. pure, cryst.
Do. " "
Do. resublim.
RESORCIN, chem. pure.
Do. puris. resubl. albiss.
URETHAN, chem. pure.
PHENYLURETHAN.
MONOMETHYLANLINE.
METHYLENE Blue, medicinal.

FARBWERKE, vorm. MEISTER LUCIUS & BRUNING, Hoechst o/M.

FORDARO BROTHERS,

WHOLESALE AGENTS FOR BENGAL, CALCUTTA.

SOLUBLE "TABLOIDS" OF COMPRESSED DRUGS.

TINCTURE "TABLOIDS."

Tincture "Tabloids" fully and accurately represent their respective "Tinctures," minus, of course, the menstruum. The number of additions already made to the list proves conclusively how favourable has been the reception of this class by the Faculty. Tinctures undergo change and are frequently irreliable; "Tabloid" of Tinctures are always reliable and do not undergo metamorphosis. Where the administration of a single—i. e., uncombined—drug is desirable or admissible, a Tincture "Tabloid" is immeasurably superior to the Tincture itself, more reliable to produce its effect and less objectionable to the patient.

TAR "TABLOIDS."

At the request of physicians who have been unable to obtain a preparation of Pure Tar free from acrid and irritating principles, we have just prepared a "Tabloid" of this body, each containing one grain of the purest wood tar obtainable. In catarrh, bronchitis, bronchorrhœa, and pulmonary affections, these "Tabloids" will be found useful and convenient. Supplied to the Medical Profession in bottles of 50 and 100.

PILL BLAUD "TABLOID."

These "Tabloids" equal 4 gr. each of the improved Pil. Blaud, the two necessary salts before compression having been freed from water of crystallisation. They keep well, and the fact that they are still unoxidised may be proved on simply moistening with water, when the green ferrous carbonate will at once be developed. They are intended to disintegrate slowly, not spontaneously, in the stomach, so as to avoid gastric disturbance and to ensure the thorough absorption of the iron. In bottles of 25 and 100.

PEPTONIC "TABLOIDS."—NEW PROCESS.

(Gastro-Enteritic Digestive.)

The old practice of prescribing two or more of the digestive ferments together has been shown to be unscientific. To avoid this when Pepsin and Pancreatin are prescribed we have introduced a new form of Peptonic "Tabloid." Each "Tabloid" consists of (1st) an inner kernel containing Calcium Lactophosphate and Pancreatic Extract (Zymine) coated with Keratin, and (2nd) immediately upon the Keratin coating is laid a covering of pure Pepsin, and over this again an outside coating of sugar. When the "Tabloid" enters the stomach the sugar-coating easily dissolves and the Pepsin peels off, the Keratin-protected kernel passes into the intestine unaffected and is then dissolved to assist in the pancreatic digestive function. In bottles of 25 and 100.

QUININE "TABLOIDS."

½, 1, 2, 3 and 5 grains each. The "Tabloids" of soluble Quinine are supplied either plain or beautifully coated with pure white sugar. Patients can swallow the "Tabloids" with the greatest facility, and the drug being readily and perfectly absorbed, the action is uniform and reliable.

LIST OF "TABLOIDS" OF COMPRESSED DRUGS prepared by BURROUGHS, WELLCOME & CO.,

Aconite Tinct., 1 and 5 min.
Aloin, 1-10 gr.
*Aloin Compound (Anti-Constipation). *(Aloin, 1-5 gr.; Belladonna Ext., 1-8 gr.; Strych., 1-60 gr.; Ipecac., 1-16 gr.)*
Ammon. Bromide, 5 and 10 gr.
Ammon. Chloride, 3, 5, and 10 gr.
Ammon. Chloride with Borax.
Antacid (Magnesio-Calcic) *(Calcium Carb. Præcip., 3½ gr.; Magnes. Carb., 2½ gr.; Sodium (Chloride, 1 gr.)*
Antifebrin, 2 gr.
Antim. Tartrate. 1-50 gr.
Antipyrin, 2½ and 5 gr.
Apomorphine Mur., 1-50 gr.
Arsenious Acid, 1-100 and 1-50 gr.
Atropia Sulph., 1-100 gr.
Belladonna Tinct., 1, 5 and 15 min.
Bismuth Subnitrate, 5 and 10 gr.
Bismuth and Soda, 2½ gr. each.
Blaud's Pill, 4 gr.
Blue Pill, 3 gr.
Borax, 5 gr.
Caffeine Citrate, 2 gr.
*Calcium Sulph., 1-10 gr.
Calomel, ½ and 1 gr.
Camphor, Comp. Tinct. (Paregoric), 2, 5 and 15 min.
Cannabis Indicæ Tinct., 3 min.
Capsicum Tinct., 1 min.
*Cascara Sagrada Ext., 2 gr.
*Cascara Comp. *(Cascara Ext., Dry, 1 gr.; Euonymin, ½ gr.; Nux Vomica Ext., 1-16 gr.; Hyoscyamus Ext., Dry, 1-3 gr.; Iridin, ½ gr.)*
*Cathartic Comp., U. S. P. *(Ext. Coloc. Co. Pulv., 1 1-3 gr.; Ext. Jalapæ Pulv., 1 gr.; Hyd. Sub-chlor., 1 gr.; Gambogiæ Pulv., ½ gr.)*
Charcoal (Pure Willow), 5 gr.
Chloralamid, 5 gr.
Chloral Hydrate, 5 and 10 gr.
Cinch. Co. Tr., 30 min.
,, Simp. Tr., 30 min.
Cocaine Mur., 1 gr.
Cocaine, with Potash and Borax *(see Voice).*
Copper Arsenite, 1-1000 gr.
Cretâ Aromat. cum Opio Pulv., 5 gr. (Aromatic Confection with Opium).
Cubeb, Belladonna Efferves.
Cubeb. Comp. *(Cubeb Pulv., 2 gr.; Ammon. Chlor., ½ gr.; Ext. Glycyrrh.).*
Dialysed Iron, 10 min.
Digitalis Tinct., 1 min.
Digitalin, 1-100 gr.
Diuretin-"Knoll," 5 gr.
Dover Powder *(see Ipecac. and Opium).*
Ergotin (sugar-coated), 3 gr.
Euonymin Resin, 1-8 gr.
Exalgin, 2 gr.
Gelsem. Semp. Tr., 5 min.
Guaiacum and Sulphur, aa. 5 gr.
Hydrarg. cum Cretâ, ½, ¼ and 1 gr,
Hydrarg. cum Cretâ, 1 gr.; with Dover Powder, 1 gr.
Hydrarg. Iod. Rub., 1-20 gr.
Hydrarg. Iod. Vir. (Proto-Iodide of Mercury), 1-8 gr.
Hydrarg. Perchlor., 1-100 gr.
Hydrarg. Subchlor., 1-10 gr. *(see also Calomel, 1 gr.)*
*Hydrastia Comp. *(Hydrasta Mur. ½ gr. Ergotin, ½ gr.; Cannabin Tannate, ½ gr.*
Hydronaphthol, 3 gr.
Hyoscyam. Tr., 10 minims.
*Ichthyol, 2½ gr.
Ipecac. and Opium, ½ & 5 gr. (Dover Powder).
Ipecac. Powder, 1-10 and 5 gr.
Ipecac. Pulv. cum Antim. Tart., aa 1-100 gr.
Iron and Arsenic Comp. *(Quinine Bisulph., 1 gr.; Iron Hypophosp., 2 gr.; Arsenic, Strych. Sulph., aa 1-50 gr.)*
Iron and Quinine Cit., 3 gr. (plain and sugar-coated).
*Laxative Vegetable, plain and sugar-coated *(Res. Podoph., Ext. Hyosc., Ext. Taraxac., aa ½ gr.; Ext. Coloc. Pulv., 1 gr; Ext. Jalapæ Pulv., Res. Leptand., aa 1-2 gr. Ol. Menth. Pip.)*
Lithia Carbonate, 2 gr.
**Lithia* Co. (Dr. Lane's formula). *(Lithia Benzoas, 3 gr.; Sulphur Præcip., 2 gr.; Quin. Salicy., 1-3 gr.).*
Magnes. Carb. Comp. (antacid.) *Pot. bicarb., 2 gr.; Sodii bicarb., 2 gr.; Magnes. Carb. Levis, 2 gr.; Sodii Chlorid., 3 gr.*
Manganese Dioxide, 2 gr.
Morphine Sulph., 1-20 and 1-8 gr.
Nasal, Alkaline *(Borax, 5 gr.; Soda Chlor., 5 gr., effervescent).*
Nasal Antiseptic and Alkaline *(Soda Bic., 5 gr..; Acid Carbolic, 1-2 gr.; Borax, 5 gr.)*
Naso-pharyngeal (Dr. Macnaughton Jones' formula). *(Sodium Chlorid., Borax, Boric Acid, Benzoic Acid, Menthol, Thymol, Cocaine Mur., Ol. Gaultheriæ).*
Nitro-glycerine, 1-100 gr. *(see also Trinitrine).*
Nux Vomica Tinct., 1, 3, & 10 min.
Opium Tinct., 2, 5, and 10 min.
Opium, ½ and 1 gr.
Pancreatin *(see Zymine "Tabloids").*
Papain, 2 gr. (Dr. Finkler & Co.)
Pepsin (Fairchild).
Pepsin, Saccharated, 5 gr.
Peptonic, 3 gr. *(Pepsin, Pancreatin, and Lactophosph of Lime., p. aq.).*
*Peptonic (new process). *Zymine, 1 gr.; Calcii Lacto-Phosphate, 1 gr., coated with Keratin. Pepsin Pure, 1 gr., is then added, and the complete "Tabloid" coated with pure white sugar).*
Phenacetin (Bayer), 5 gr.
Pilocarpin Mur., 1-20 gr.
Podophyllin Resin, ¼ gr.
Potass Bicarb., 5 gr.
Potass Bromide, 5 and 10 gr.
Potass Chlorate, 5 gr.
Potass Chlorate with Borax.
Potass Iodide, 5 gr.
Potass Nit. (Sal Prunella), 5 gr.
Potass Permanganate, 1 and 2 gr.
Quinine Bisulphate, ¼ and 1 gr.
*Quinine (Bisulph.) 1, 2, 3 and 5 gr.
Quinine Sulphate (plain and sugar-coated) same strengths, sizes and prices as Quinine Bisulphate.
Reduced Iron, 2 gr.
Resorcin, 3 gr.
Rhubarb Comp. (Pill), 3 gr. *(Rhei. Pulv. 1½ pt.; Aloes Soc. Pulv., 1 pt.; Saponis Pulv., 5-8 pt.; Myrrhæ Pulv., 5-8 pt.; Ol. Menth. Pip.)*
Rhubarb Comp. Pulv. (Gregory Powder), 5 gr.
Rhubarb and Gentian (Stomachic Comp.). *Infusion Gentian Co., 2 fl. dr.; Infusion Rhei, 2fl. dr.; Soda Bic., 5 gr.; Ol. Menth. Pip., ½ gtt.)*
Rhubarb and Soda, 5 gr. *(Rhei, 3 pts.; Sodæ Bicarb., 2 pts.; Zingiber, ½ pt.)*
Rhubarb, 3 gr.
Saccharin, ¼ gr.
Salicin, 5 gr.
Salol, 5 gr.
Santonin, ½ gr.
Soda Bicarbonate, 5 gr.
Sodium Dithio-salicylate, 5 gr.
Soda-Mint, or Neutralising "Tabloids." *(Soda Bicarb., 4 gr.; Ammon. Carb. 1-8 gr.; Ol. Menth. Pip., 1-8 gr.)*
Soda Salicylate, 3 and 5 gr.
Strophanthus (2 minims of Tinct. in each).
Sulphonal, 5 gr.
Sulphur, Comp. (Sir A. Garrod's formula) *(Sulph. Præcip., 5 gr.; Potass. Bitart., 1 gr.)*
Tannin, 2½ gr.
Tar, 1 gr.
Test "Tabloids" (for preparing Fehling's Solution).
Thirst.
Thyroid gland, 5 gr.
Tinct. "Tabloids." In oval bottles and bottles of 100.
Tonic Comp. *(Iron Pyrophos., 2 gr.; Quinine, 1 gr.; Strych., 1-100 gr.)*
Trinitrine (Nitro-glycerine), 1-100 and 1-50 gr.
Trinitrine and Amyl Nitrate.
Trinitrine Comp. *(Trinitrine, 1-100 gr.; Nitrite of Amyl. ½ gr.; Capsicum, 1-50 gr.; Menthol, 1-50 gr.)*
Urethane, 5 gr.
Voice *(Potash, Borax, and Cocaine.)*
Warburg Tincture, 30 min. in each.
Zinc Sulphate, 1 and 10 gr.
Zinc Sulpho-carbolate, 2 gr.
Zingib. Fort. Tinct., 5 min.
Zymine (Fairchild).
Zymine Comp. (Fairchild) *(Zymine, 2 gr.; Bismuth Subnit., 3 gr.; Pulv. Ipecac., 1-10 gr.)*

Those "Tabloids" marked with an asterisk are also supplied coated with a perfectly soluble coating of pure white sugar. These coated "Tabloids" will only be dispensed by Chemists when specially indicated by the Physician.

BURROUGHS, WELLCOME & CO., *Manufacturing Chemists, Snow Hill Buildings, LONDON.*

HARRY DOYLE & CO.,

REGIMENTAL MESS AGENTS AND AGENTS FOR SUPPLYING EVERY DESCRIPTION OF GOODS.

We Supply Wines, Beer, Oilman's Stores, Tinned Provisions, Crockery, Glassware, Enamelled Ware, Furniture, Clothing, Calcutta Matting, Coir Matting and Rugs, Doors, Windows, Shutters, Panes of Glass, English plate Glass, Garden seeds and Plants.

IF YOU WANT ANYTHING, send your order to us.

We work on the Principle, that a Minimum of profit results in a Maximum of Trade.

THE QUALITY OF THE GOODS WE SUPPLY ARE THE BEST OF THEIR KIND

A TRIAL ORDER WILL SHOW YOU OUR METHOD OF DOING BUSINESS.

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2, SWALLOW LANE, CALCUTTA.

SPECIAL CIGARS.

We have Completed arrangements with Messrs Marvell & Co. of Dindigul, and have been appointed their *Sole Agents* for India and Burma.

We Confidently ask our Friends and Constituents to place their orders with us. These Cigars are well made, of good leaf, and smoke freely with clear white ash.

THE FOLLOWING ARE NOW AVAILABLE.

CHOICE SUMATRA CIGARS.

	Rs.	As.	P.		Rs.	As.	P.
Diamond, 6 inches long, per thousand ...	35	0	0	Midas No. 1-5 inches long per thousand ...	29	0	0
Emporiums No. 1-4½ " " ...	25	0	0	Midas No. 2-4½ " " " ...	27	0	0
Do No. 2-4 " " ...	23	0	0	Floras 4½ " " " ...	27	0	0
Europas 4½ " " ...	25	0	0	Terminus 3 " " " ...	15	0	0

CHOICE INDIAN CIGARS.

	Rs.	As.	P.
No. 2, Dawson, 5 inches long, per thousand	15	0	0
Five Minutes 3 " "	7	0	0

THESE CIGARS CAN BE SUPPLIED BY THE HUNDRED IN BOXES AT SLIGHTLY HIGHER RATES. PRICE LIST OF CIGARS FREE ON APPLICATION.

HARRY DOYLE & CO.,

2, Swallow Lane, Calcutta.

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INK AND CHEMICAL MANUFACTURING CO., LD.,

69, NEW CHINA BAZAAR, CALCUTTA.

ORIGINAL CONTRACTORS TO THE GOVERNMENT OF INDIA,

SOLE MAKERS OF

Thomson's Celebrated Inks,

BLACK WRITING, AND BLACK EXCHEQUER INKS,

(Both blue-black fluid).

VIOLET, BLACK, COPYING, SCARLET, ROSEATE, &c., &c.,

Equal in quality to any imported, and prices very much cheaper,

Have stood the test of nearly quarter of a century

Awarded a Prize Medal & First Class Certificate, Calcutta Exhibition, 1883-'84.

For Price list and further particulars, apply to---

John Thomson, *Managing Agent,*

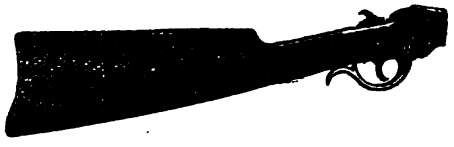
69, NEW CHINA BAZAAR, CALCUTTA.

GUNS! GUNS!! GUNS!!!

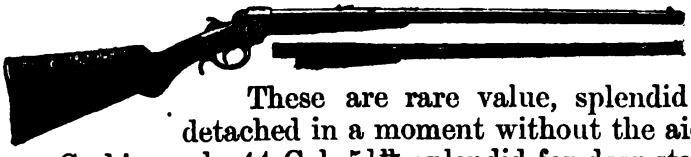
Cheapest in India, Repairs and Browning second to none, and moderate beyond expectation. Single and Double, Hammer, Hammerless, and Ejector Guns, Single and Double Hammer, and Hammerless Express Rifles, Elephant and Rhino Rifles, Rook, Winchester, Magazine, Colt's Rifles, Duck and Wild fowl guns, Revolvers, game sticks, bags, belts, cases, Implements, Single and Double M. L. Guns, etc., etc.

Noted Belmont Hammerless D. B. Guns complete Rs. 180.

Our noted self ejecting Saloon rifle long and short Cartridge Rs. 32.



Major Burges, S. C. Madras, says of these rifles—"the other nickel plated rifles advertised at same price, cannot in any way be compared to it."



44 Cal. Rifle with interchangeable 16 or 20 bore shot barrel Rs. 85.

These are rare value, splendid rifles, for buck or hill shooting, can be detached in a moment without the aid of any tool.

Carbine only 44 Cal. 5¼lb splendid for deer stalking Rs. 55.

Sportsmen!—We import direct from America the noted Osgood's portable folding boats, weight 25lbs and up, no sporting outfit is complete without one.

A. HARTMAN & Co.,

Gun and Rifle Maker, Importer of every description of Small Arms, etc.,
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MAR 27 1894

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The flavour of the Essence of Malt is delicious. It is admirable as a table beverage when diluted with aerated water and as an addition to milk for infant and invalid dieting; for it sweetens it and facilitates its prompt and perfect digestion. The Essence may be taken in coffee, gruel, aerated or plain water, wine, or mixed with any farinaceous pudding. As an addition to the food for young children its value cannot be over-estimated. It increases the value of all farinaceous food, and prevents the starch in such food, and large clots of curd in milk diet, overtaxing the power of the digestive functions.

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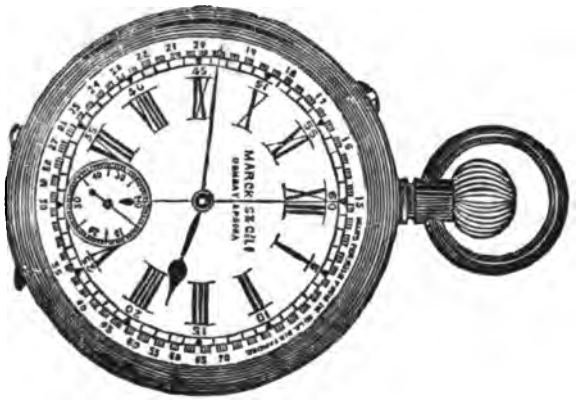

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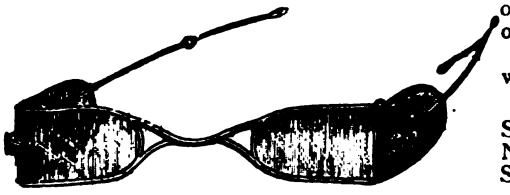

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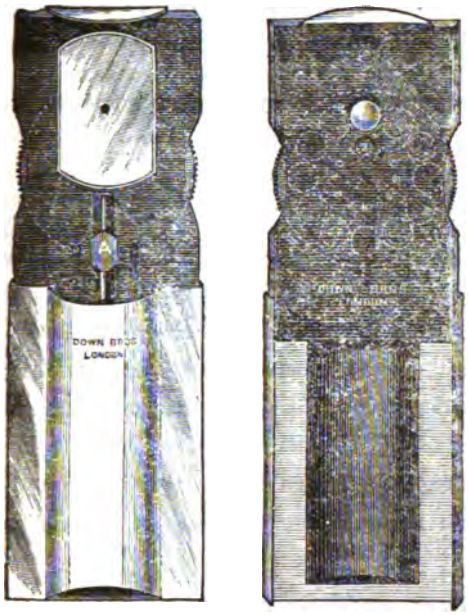

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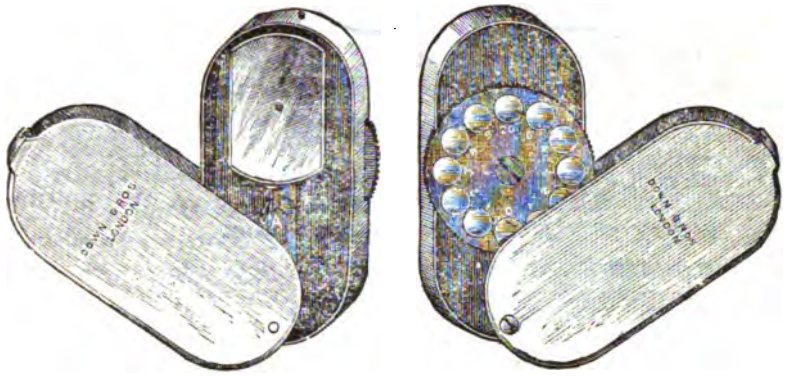

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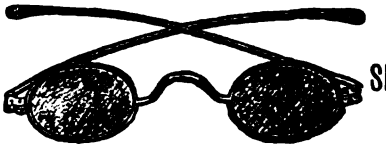
CATARACT  SPECTACLES

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Is a solution containing 50 per cent, of the finest Castor Oil in Kepler Extract of Malt. Taking as our guide the Kepler Solution of Cod Liver Oil, wherein the oil is rendered palatable through being dissolved in Extract of Malt, we performed similar experiment with Castor Oil, and in the Malto Ricine the repugnant odour and flavour of the oil are throughly hidden Moreover, the aperient action is enhanced by the laxative effect of the Extract of Malt. It is palatable and therefore readily taken by children or fastidious patients. The demulcent, mild, aperient and soothing properties of of the Malt Extract render it especially adapted for mixing with and masking the disagreeable properties of Castor Oil, thus rendering it agreeable to those uuable to take the clear oil.

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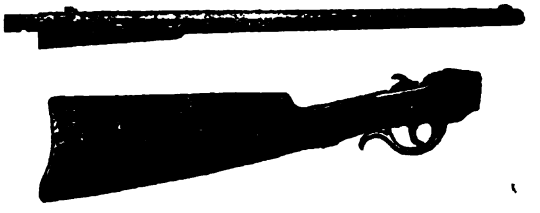

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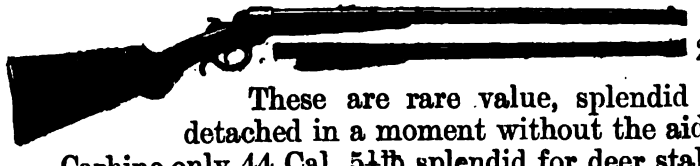

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Contains Phosphates of Iron, Soda, Potash and Lime. Strongly recommended in all exhaustions of the nervous system, and also in anæmia, scrofula, rickets and debility. Prescribed with success as a tonic for ladies during pregnancy. Price per lb Rs. 1-4-; 4 oz phials As. 6; Doz. Rs. 3-0-0

SYR. CALCII LACTO-PHOSPH.—A well known specific for defective formation of bone. If timely administered it will prevent the deformities arising from rickets and osteomalacia.

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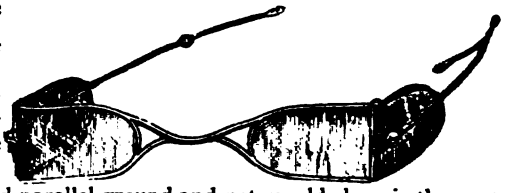

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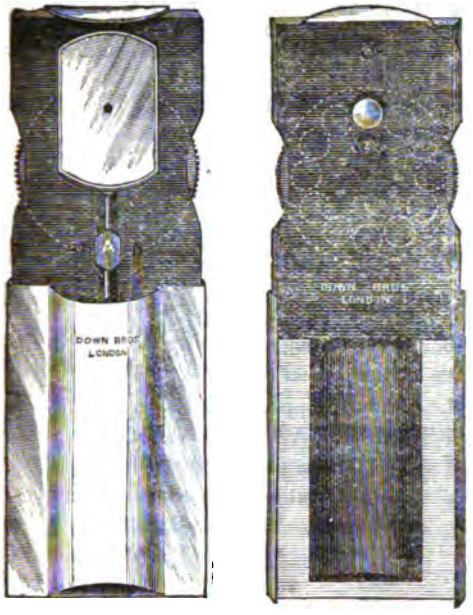

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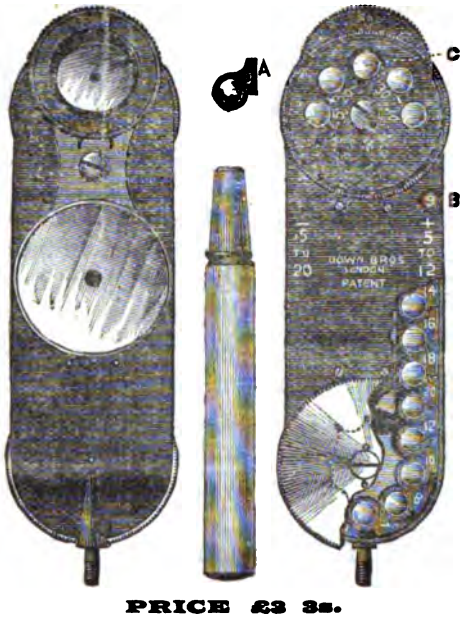

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One or two tiny "Tabloids" added to a cup of tea, coffee or cocoa—in lieu of as many lumps of sugar—will impart to it a delicate, sweet flavour.

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It may be applied in full strength for bruises, sprains, strains, soreness, lameness, stiffness and chronic rheumatism.

For the pain of piles, burns, erysipelas, eczema and for varicose veins wounds and sores, Lawton's Absorbent Cotton may be laid over the part and kept saturated with Hazeline. Two tablesponfuls (diluted with an equal part of tepid water) may be injected into the rectum for internal piles and a teaspoonful taken by the mouth three times a day.

Dr LAUDER BRUNTON considers Hazeline is of the greatest benefit in Piles, either taken *internally* in doses of half to one drachm, by injecting this quantity, either plain or diluted, with a glycerine syringe, into the rectum; or if the hæmorrhoids are near the entrance, a pledget of wool may be soaked in the Hazeline and introduced into the anus. "I have tried various preparations of Hamamelis *but I have not found either the tincture or the local extract*, both of which are to be found among the recent additions to the Pharmacopœia, nearly so satisfactory" —BRIT. MED. JOURN., March 12th, 1892.

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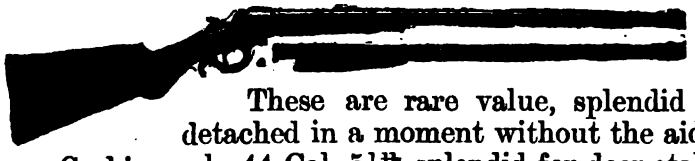

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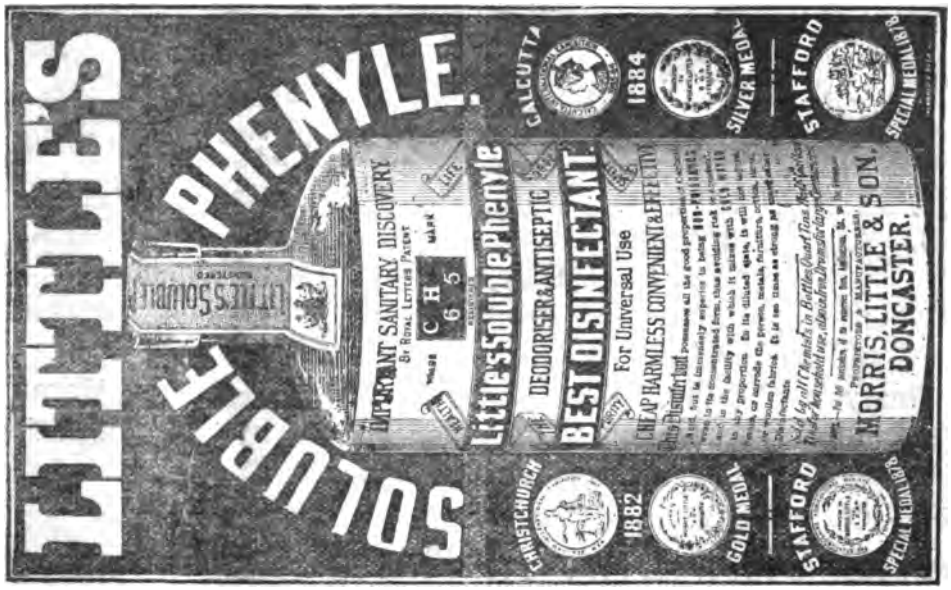
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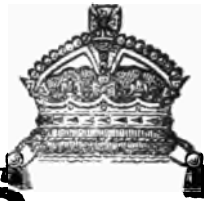

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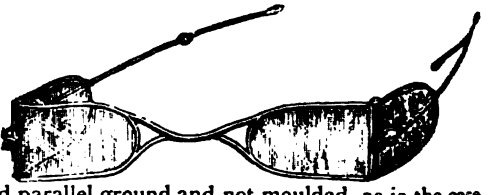

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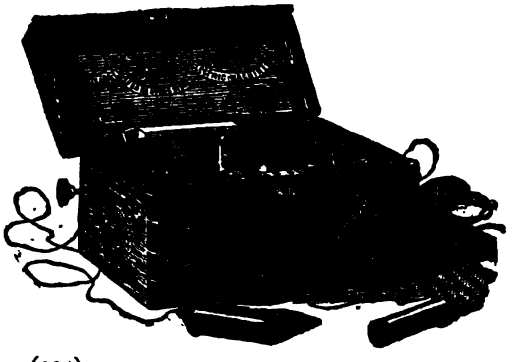

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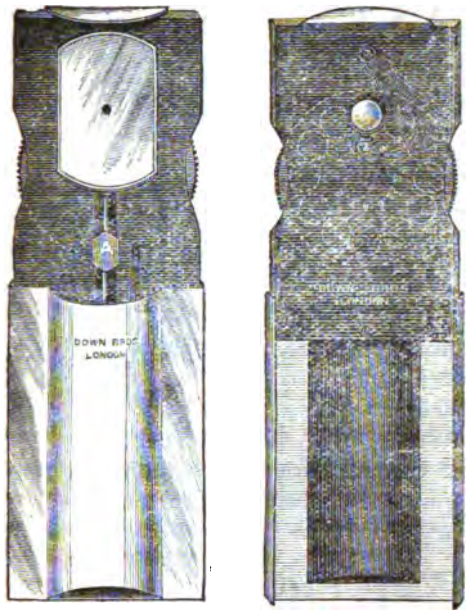

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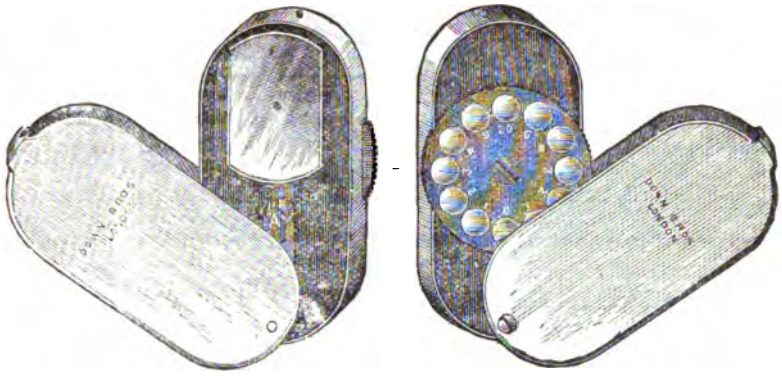

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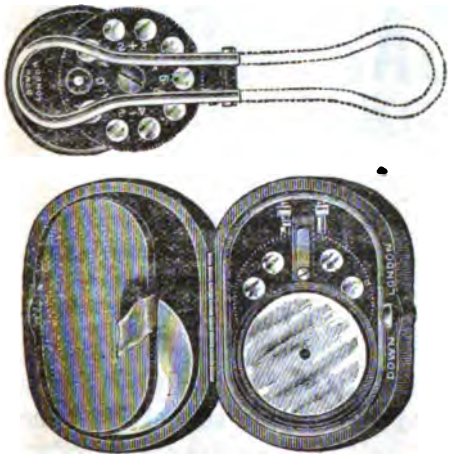

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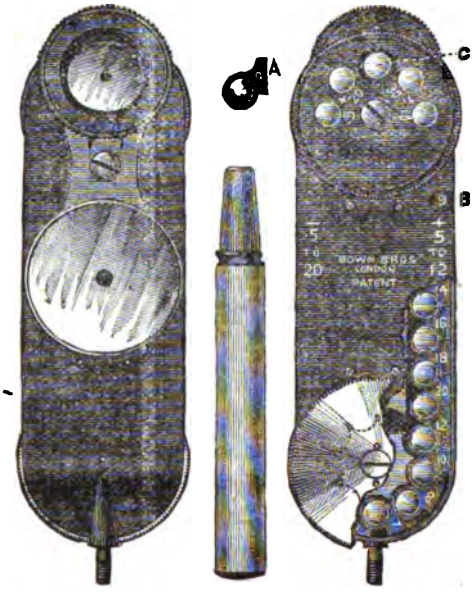

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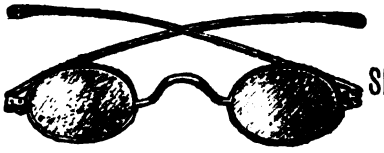
CATARACT  SPECTACLES

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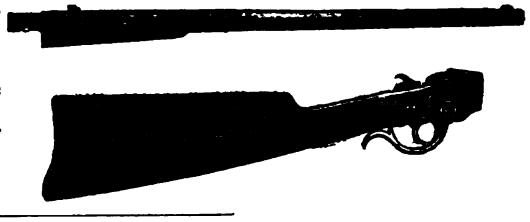

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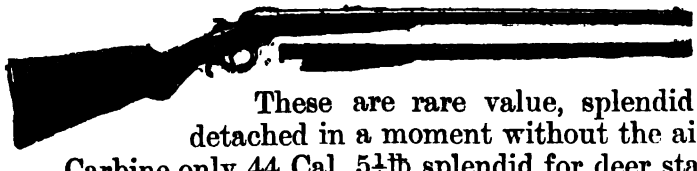

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Black and White	37	0	35	0	27	0
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Graphic	30	0	28	0	18	0
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Illustrated London News	30	0	28	0	18	0
Do Sporting and Dramatic News	30	0	28	0	18	0
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Lady	18	0	17	0	13	0
Lancet	34	0	30	0	25	0
Modern Society	10	0	9	0	7	0
Overland Mail...	28	0	26	0	16	0
Pall Mall Budget	32	0	30	0	21	0
Pick me Up	10	0	9	0	7	0
Public Opinion	12	0	10	0	8	0
Punch	15	0	14	0	11	0
St. James' Budget	28	0	26	0	16	0
Saturday Review	28	0	26	0	16	0
Scientific American	16	0	14	0	11	0
Spectator	28	0	26	0	16	0
Sporting Times	12	0	11	0	8	0
Truth	28	8	26	0	16	0
Times (Weekly Edition)	12	0	11	0	8	8
Tit Bits	10	0	9	0	7	8
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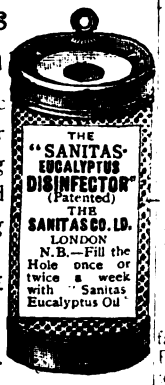

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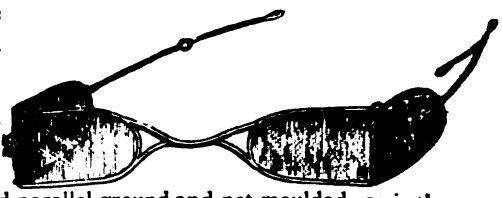

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Machine and Handles, in strong case, stained and polished ...	,,	27
Machine and Handles, in strong case, stained and polished, larger size, with double Magnet	,,	40
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A large and varied stock of Medical Indicator Coils and Batteries, with Instruments and Directors ...	Rs.	50 to 200
Gaiffe's Small Battery, including Coil, Handles, Battery, Directors, and bottle of Crystals, all in box, size 6" by 3" by 1⅛"; a very serviceable article for Travellers and others ...	Rs.	27

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THE ONLY RELIABLE DISINFECTANT EXTANT.

BEWARE OF SPURIOUS IMITATIONS.

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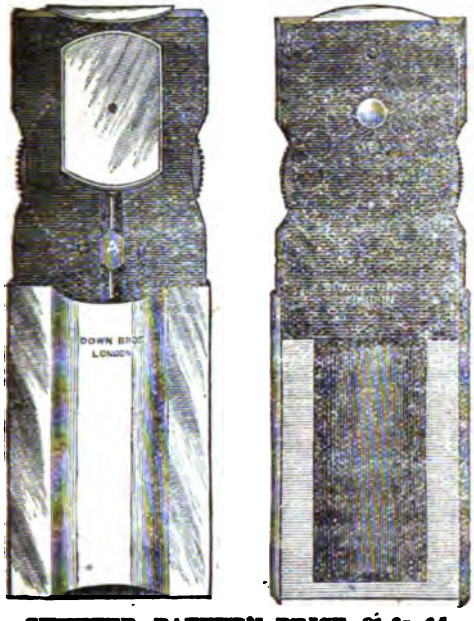
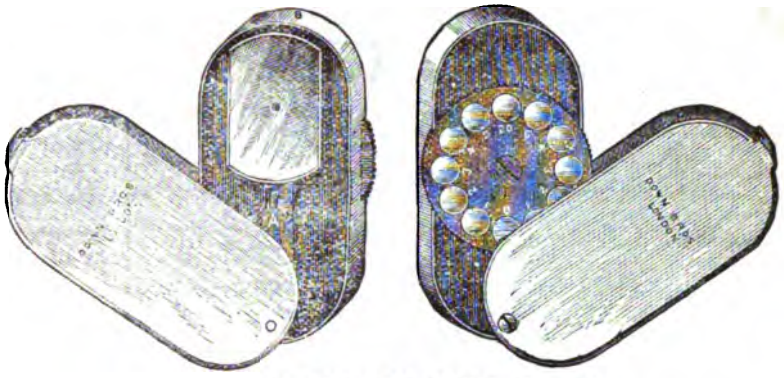
IMPROVED PORTABLE OPHTHALMOSCOPES.

Suggested by SIMEON SNELL, F.R.C.S., Ophthalmic Surgeon to the Sheffield General Infirmary, &c., &c.



SHUTTER PATTERN, PRICE £1 8s. 6d.



FOLDING PATTERN, PRICE £1 7s. 6d.

THESE Ophthalmoscopes have been designed with the object of at once forming a portable and efficient instrument, and one inseparable from its case, thereby minimising the risk of breakage, and keeping the lenses clear and free from dust. The case itself forms the handle, and thus saves the trouble of screwing and unscrewing. The sectional mirror is raised by means of the button (A), and can then be turned so as to be useful for direct or indirect examination. The diaphragm is provided with convex and concave lenses + 1, 2, 3, 4, 9, 20, and — 1, 2, 3, 4, 6. **The glasses and workmanship are of the highest quality.** The two forms illustrated above possess equal advantages, the choice being merely a matter of individual preference.

IMPROVED PORTABLE OPHTHALMOSCOPE.

Suggested by CHARLES OLDHAM, F.R.C.S., of Brighton.

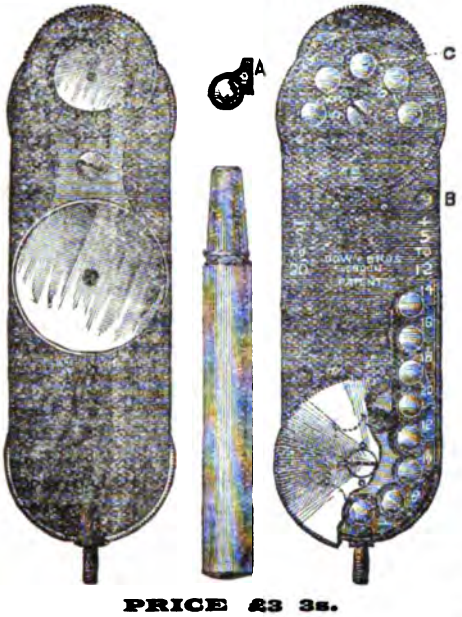
A most convenient and compact Instrument. Fitted with revolving diaphragm, containing five convex and four concave glasses—viz., + 1, 2, 3, 4, and 6, and — 1, 2, 4, and 8. Size, 2¾ by 1¼ in. Weight, 2 oz.

"We have used it repeatedly and have been quite satisfied with its action."—Vide *The Lancet*, Nov. 27th, 1886.

PRICE 25s.

IMPROVED MORTON'S OPHTHALMOSCOPE.

(DOWN BROS. PATENT.)



PRICE £3 3s.

THIS figure represents an improvement on the well-known Morton's Ophthalmoscope; it consists of a new form of lens holder, which forms a link in the chain of lenses, and answers the double purpose of holding a lens and of indicating the power of a lens; this is effected by a number engraved on the wing attached to the lens holder (A); this wing does not at all impede the passage of the chain of lenses along the trough or link race, and it is impossible for the order in which the chain travels to become by any means disarranged; the number engraved on the wing is shown at the sight-hole (B) and represents the power of the lens appearing at the reading aperture (C), thus dispensing with the complicated arrangement of the time wheel used to indicate the power of the lenses in the older form of Ophthalmoscopes.

DOWN BROTHERS, Surgical Instrument Manufacturers,

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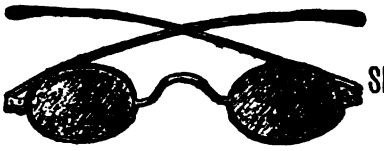
(OPPOSITE GUY'S HOSPITAL).

TO OPHTHALMIC AND CIVIL SURGEONS.

CATARACT  SPECTACLES

FOR PAUPER PATIENTS.

STRONG Spectacles for the use of Pauper Patients who have been operated on for Cataract, in quantities (not less than one dozen), Rs. 15 per dozen. These Spectacles have non-corrosive metal mounts, and will last for years.

THEY SUPPLY A LARGELY FELT WANT.

BEST CROWN GLASS SPECTACLES (any focal power) in strong non-corrosive metal mounts. Rs. 5 per pair.

SECOND QUALITY CROWN GLASS SPECTACLES (any focal power) in strong non-corrosive metal mounts, Rs. 2 per pair.

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We work in our Bombay Factory any combination in above lenses, and can execute orders within three days of receipt.

Prescriptions for Spectacles accurately carried out. Surgeons requiring the loan of a set of trial lenses (of which we always keep several sets by us), can obtain the same immediately.

LAWRENCE & MAYO.,

Ophthalmic Opticians,

OPTICIANS TO THE PRINCIPAL OPHTHALMIC SURGEONS IN INDIA.

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Certificate with a Medal, Colonial and Indian Exhibition, London 1886.

We manufacture Tinctures, Syrups, and other Pharmaceutical preparations under careful supervision, and regularly import Medicine Chests, Medicines, Surgical, Dissecting and Midwifery Instruments, Appliances and Fittings, Druggists' Sundries, Perfumery, &c. &c., from celebrated Firms, both in England and the Continent. Nepal Musk, always kept in stock. The purity and superior quality of our own manufactures, as well as our imported goods, are guaranteed, and we have always met with the entire approval of our constituents. Our terms are moderate, and we make a special allowance to wholesale purchasers. Goods are sent by V. P. P., on receipt of one-half of the value of the order. A trial order is earnestly solicited.

The following is the remark of the Government of India respecting our preparations:—"These are manufactured by a Native Firm of Calcutta—The 'Peacock Chemical Works'—and are cheaper than European manufactured Tinctures. This is the only Native Firm which has wholesale dealings in Tinctures, and deserves encouragement."

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We also supply Aerated, and Soda Water, Lemonade, Gingerade, Tonic, &c.,
From all of which the atmospheric air is extracted.

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NOW OPEN.

Thermal-Steel-Brine-Baths

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HYDROPATHIC ESTABLISHMENT IN INDIA

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Protected by Royal Letters Patent.

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HEADACHE,
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Prepared under the authority and control of the Discoverer by

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Purchasers should always inquire for "Dr. KNORR'S ANTIPYRINE (Lion Brand)." The labels bear in *fac simile* the signature of "DR. KNORR." Dr. Knorr's Antipyrine is readily and completely soluble in water.

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DERMATOL (Patent applied for). An odourless vulnerary, replacing Iodoform in most cases. Discovered by Drs. Heintz and Lebrecht.

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A trustworthy remedy in wounds of all kinds, as well as in moist skin affections: blisters, abrasions, chafing of women and children, excoriation, etc. Excellent as a dusting powder for the feet.

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All tins bear our Registered Lion Trade Mark. The labels have the signature of the respective discoverers.

TUMENOLUM-VENALE (Tumenol).
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Recommmended by Professor Neisser at the Dermatological Congress in Leipzig.

TUBERCULOCIDIN of Professor Klebs.

With reference to the strength of the Tuberculocidin solution, we observe, that it is prepared from an equal volume of Tuberculin Koch. This strength Professor Klebs designates in his publications as 100 per cent. We now supply this solution in quantities of 30 ms, 1½, 2½, and 6 drachms. Imitations must be carefully avoided. The Sole Manufacturers of the above named products are

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A Glycerin Extract of the Peptic Ferments possessing all the characteristics of a concentrated and very active solution of Pepsin. It is highly active, uniform and stable, devoid of objectionable odour and taste. It is freely miscible, without precipitation and cloudiness, with all proper menstrua or media. It is notably free from all the disagreeable qualities and characteristics of peptone solutions It contains no alcohol or antiseptic other than glycerine of the purest quality. Glycerine possesses peculiar value as a vehicle of pepsin, it being the only substance known which is at once both a powerful solvent and a preservative of the ferments of the gastric juice For this reason glycerine extracts of pepsin have been recommended and employed in experimental work by physiological chemists. The properties and medicinal value of pepsin are so well known at the present time that the advantages of a pure glycerine extract of this ferment will be well understood by both pharmacists and physicians. Glycerinum Pepticum (Fairchild) possesses every desideratum both from a pharmaceutical and medicinal standpoint Twelve minims will be found equivalent in activity to one grain of the best pure pepsin in a dry form that is to be found in the market. It will be found upon comparative test many times the strength of any fluid preparation of pepsin known. It is well taken mixed with pure water, wine, or any of the usual vehicles and will be found far more agreeable than any mixture obtained by the use of any other form of pepsin. Glycerinum Pepticum supplied to the Medical profession in ½lb and 1lb bottles.

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One or two tiny 'Tabloids" added to a cup of tea, coffee or cocoa—in lieu of as many lumps of sugar—will impart to it a delicate, sweet flavour.

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PROPERTIES AND USES.—It is employed for hæmorrhage from the nose, lungs, stomach, bowels, kidneys, or womb; from one to three teaspoonfuls every hour may be taken until it stops and three times daily for awhile afterwards. In nose-bleed it may be snuffed up by the nose.

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For the pain of piles. burns. erysipelas, eczema and for varicose veins wounds and sores, Lawton's Absorbent Cotton may be laid over the part and kept saturated with Hazeline. Two tablespoonfuls (diluted with an equal part of tepid water) may be injected into the rectum for internal piles and a teaspoonful taken by the mouth three times a day.

Dr LAUDER BRUNTON considers Hazeline is of the greatest benefit in Piles, either taken *internally* in doses of half to one drachm, by injecting this quantity, either plain or diluted, with a glycerine syringe, into the rectum; or if the hæmorrhoids are near the entrance, a pledget of wool may be soaked in the Hazeline and introduced into the anus. "I have tried various preparations of Hamamelis *but I have not found either the tincture or the local extract*, both of which are to be found among the recent additions to the Pharmacopœia, nearly so satisfactory' —BRIT. MED. JOURN, March 12th, 1892.

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For the purpose of providing at a moment's notice an effective and convenient antiseptic solution for midwifery cases, we have two agents in the compressed form—"Soloids' of Mercuric Chloride and Iodic Hydrarg. The Mercuric Chloride "Soloids' are made in combination with a sufficiency of an alkaline chloride, and the mercuric salt will not be precipitated by "hard' waters; they are of such strength that one "soloid dissolved in a pint of water will give a solution the strength of which shall be 1: 1000. These "soloids," it may be remarked, are compressed so as to readily disintegrate and dissolve, are of a distinctive form and colour and give a solution which cannot be easily mistaken for other preparations. In bottles of 25 and 100, at-9 and 2- each. The "Soloids' of Iodic Hydrarg, are of 1 gr. each of this popular antiseptic and germicide The superiority claimed for this agent over the Mercuric Chloride in this connexion is important—twice the strength as a bactericide not nearly so toxic; nor liable to cause complications, does not precipitate albumen nor cause irritation and may even be taken internally in doses of 16 milligrammes (¼ gr.). Micrococci and bacilli in active growth without spores are soon killed by solutions so attenuated as 1: 40,000. Solutions of 1: 2000 will easily destroy the spores of the bacillus anthracis and the bacillus subtilis. For obstetric or gynæcological practice the strength of the solution generally used (for washing out the vagina, for instance) is 1 in 4000 and 2 "Soloids' of Iodic Hydrarg. dissolved in a pint of water will give a solution of this strength, approximately.

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Is a solution containing 50 per cent, of the finest Castor Oil in Keple Extract of Malt. Taking as our guide the Kepler Solution of Cod Liver Oil, wherein the oil is rendered palatable through being dissolved in Extract of Malt, we performed similar experiment with Castor Oil, and in the Malto Ricine the repugnant odour and flavour of the oil are throughly hidden Moreover, the aperient action is enhanced by the laxative effect of the Extract of Malt. It is palatable and therefore readily taken by children or fastidious patients. The demulcent, mild, aperient and soothing properties of of the Malt Extract render it especially adapted for mixing with and masking the disagreeable properties of Castor Oil, thus rendering it agreeable to those uuable to take the clear oil.

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The new antiseptic germicide, possessing double the bactericidal strength of corrosive sublimate, is less toxic and readily soluble in water. Iodic Hydrarg is especially adapted for use in gynæcological practice.

Supplied to the Medical Profession in 1-oz. bottles.

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No. 2, Dawson, 5 inches long, per thousand ...	15	0	0
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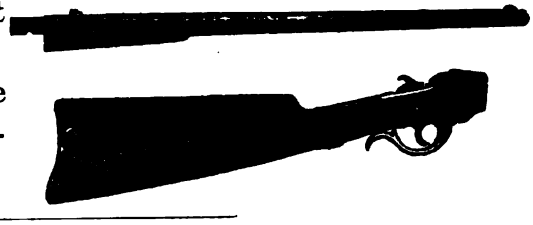
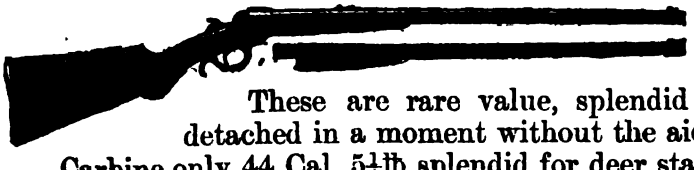
Noted Belmont Hammerless D. B. Guns complete Rs. 180.

Our noted self ejecting Saloon rifle long and short Cartridge Rs. 32.



Major Burges, S. C. Madras, says of these rifles—"the other nickel plated rifles advertised at same price, cannot in any way be compared to it."



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These are rare value, splendid rifles, for buck or hill shooting, can be detached in a moment without the aid of any tool.

Carbine only 44 Cal. 5¼lb splendid for deer stalking Rs. 55.

Sportsmen !—We import direct from America the noted Osgood's portable folding boats, weight 25lbs and up. No sporting outfit is complete without one.

A. HARTMAN & Co.,

Gun and Rifle Maker, Importer of every description of Small Arms, etc.,

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J. M. EDMOND & CO.,

CABINET MAKERS, UPHOLSTERERS, ETC.,

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Drawing-room Suites, Ready covered in Æsthetic style, Dining and Bed-room Suites, etc.

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Bagatelle Tables, Chevals, Card Tables, Jewel Boxes, Davenports, etc.

SPECIALITIES.

German Tapestries, Minton Services; New Designed Whatnots, Marble-top Wash-hand stands with tiled backs, Incised and Renasance carvings, Cathedral Almirahs, a Clothes-Press, and Hanging almirah.

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Designed and executed in Moorish, and Chinese Styles.

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Beg to inform the public that that the Celebrated

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Have established at 13, Hare Street, an Agency for sale of their own special Brands of Cigars and Cigarettes, at very moderate rates.

Only fresh and genuine Manilla Cigars supplied, at prices varying from Rs. 2 per 100 upwards. In hand 3 different Brands.

For Hotels, Clubs, Messes Traders and Dealers, wholesale rates allowed for purchases of not less than 500 Cigars. (1093)

GUNS! RIFLES!! REVOLVERS!!

NEW and second-hand ones always in stock. Suitable for all classes. Rates will be found favorable when compared with other firms. Ammunition of every description kept. Repairs executed with promptness and at low rates. Specially imported of Messrs Isaac Hollis & Sons, London :—

A Double Barrel Central fire with box, and implements complete, by Isaac Hollis & Son 20, 12, 15 bore	Rs. 80
Damascus Double Barrel Central fire, by Isaac Hollis & Son, London. Bore 16, 20, 12	„ 140
Double Barrel Central Express Rifle, with box and implements complete	„ 200
Double Barrel Central fire Breech Loading GUN, with box and implements complete 10, 12, 16 bore ...	„ 75
Double Barrel Muzzle Loading GUN, with box and implements complete, by Isaac Hollis & Son, London.	„ 60
D. B. Muzzle Loading gun	„ 39
Single Barrel Gun... ... ... Rs. 30 to	„ 35
Revolver Self-Extracting	„ 30
Revolver, Bull-dog	„ 17
10 Bore Rifle by W. W. Greener	„ 200

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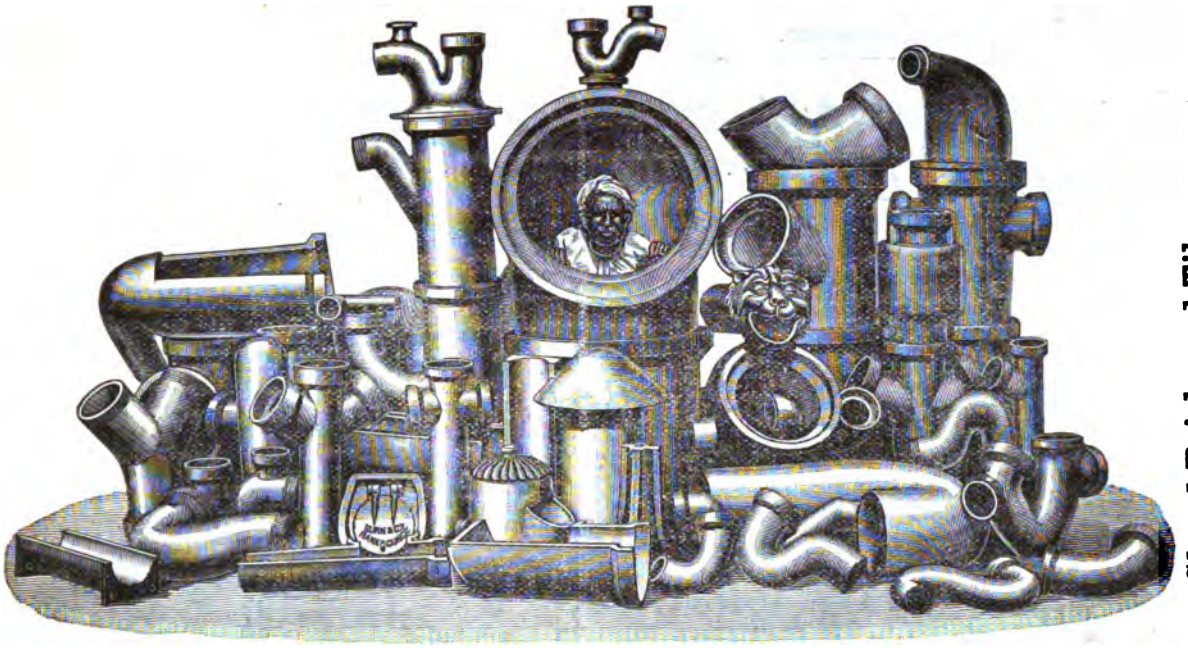

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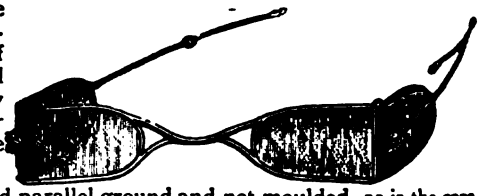

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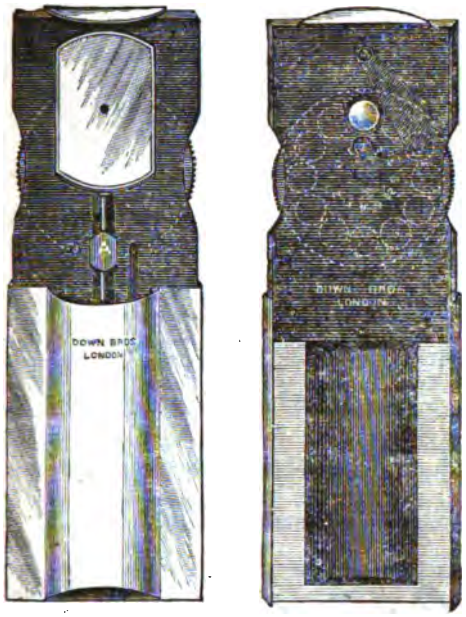

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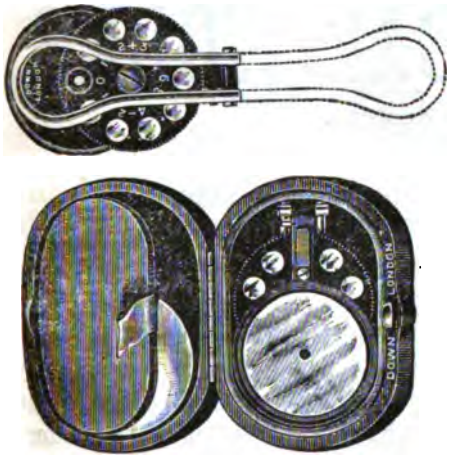

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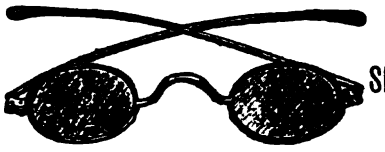
CATARACT  SPECTACLES

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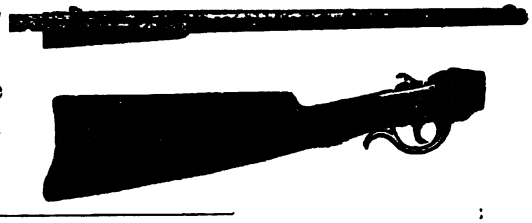

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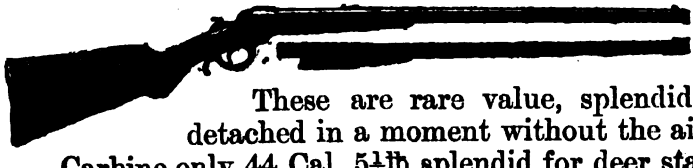

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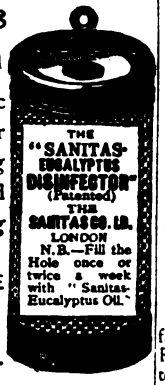

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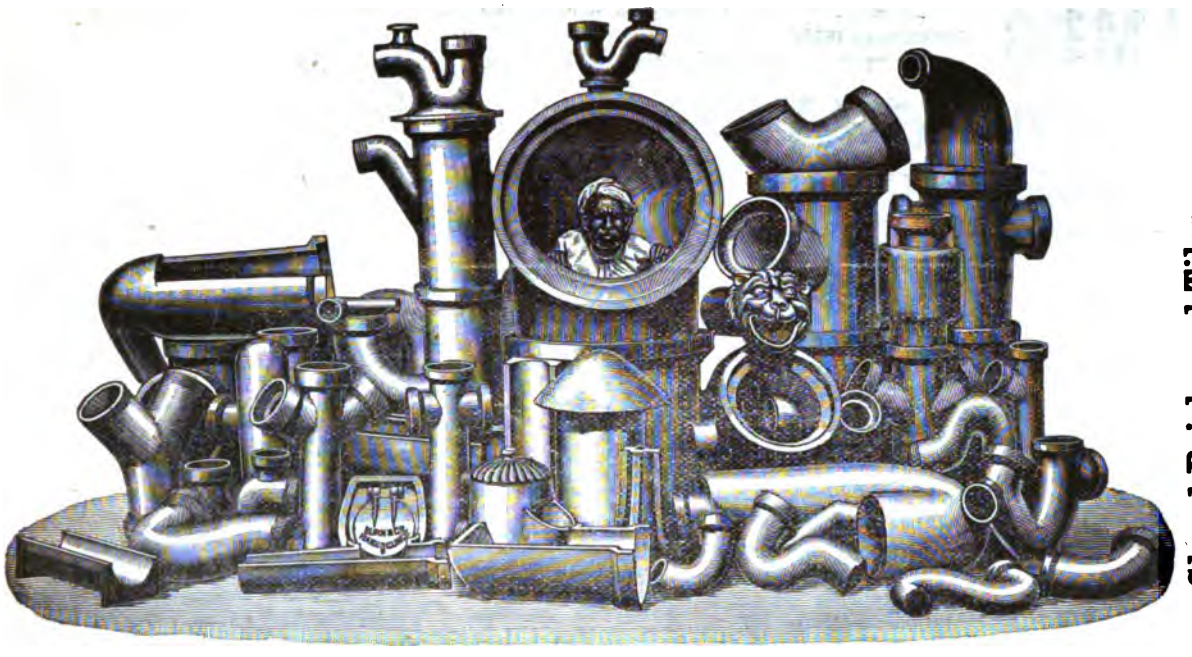

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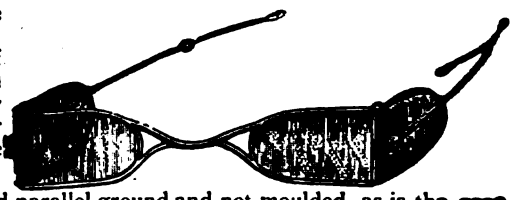

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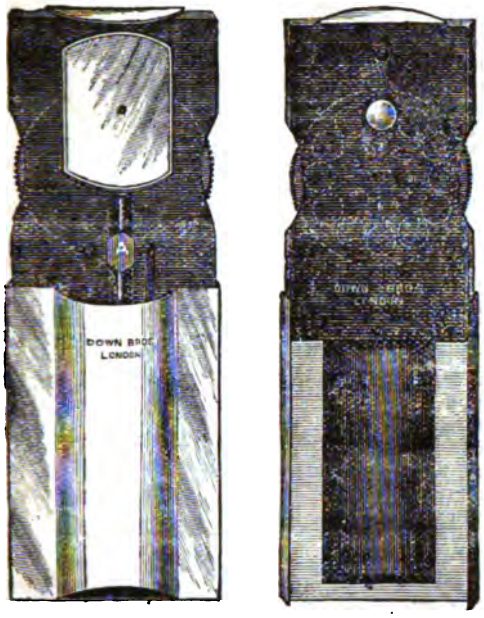

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THESE Ophthalmoscopes have been designed with the object of at once forming a portable and efficient instrument, and one inseparable from its case, thereby minimising the risk of breakage, and keeping the lenses clear and free from dust. The case itself forms the handle, and thus saves the trouble of screwing and unscrewing. The sectional mirror is raised by means of the button (A), and can then be turned so as to be useful for direct or indirect examination. The diaphragm is provided with convex and concave lenses +1, 2, 3, 4, 9, 20, and—1, 2, 3, 4, 6. The glasses and workmanship are of the highest quality. The two forms illustrated above possess equal advantages, the choice being merely a matter of individual preference.

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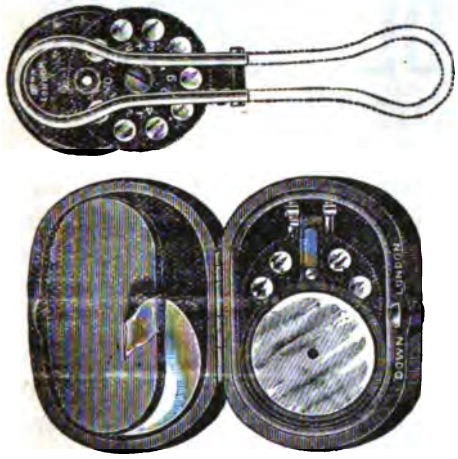
Suggested by CHARLES OLDHAM, F.R.C.S., of Brighton.



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"We have used it repeatedly and have been quite satisfied with its action."—Vide *The Lancet*, Nov. 27th, 1886.

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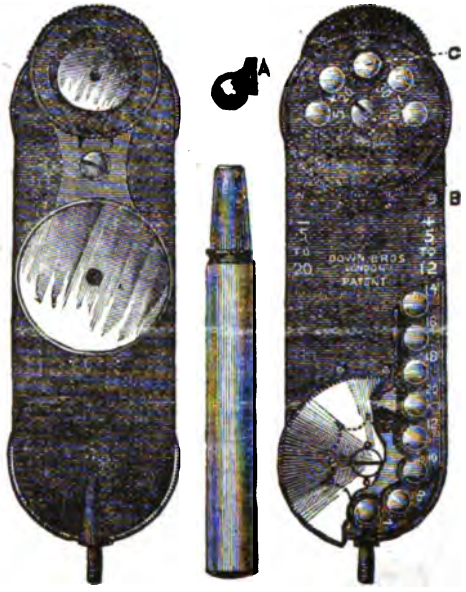
(DOWN BROS. PATENT.)



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THIS figure represents an improvement on the well-known Morton's Ophthalmoscope; it consists of a new form of lens holder, which forms a link in the chain of lenses, and answers the double purpose of holding a lens and of indicating the power of a lens; this is effected by a number engraved on the wing attached to the lens holder (A); this wing does not at all impede the passage of the chain of lenses along the trough or link race, and it is impossible for the order in which the chain travels to become by any means disarranged; the number engraved on the wing is shown at the sight-hole (B) and represents the power of the lens appearing at the reading aperture (C), thus dispensing with the complicated arrangement of the time wheel used to indicate the power of the lenses in the older form of Ophthalmoscopes.

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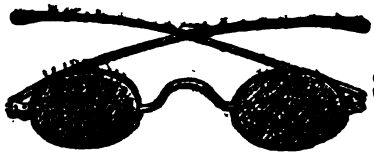
CATARACT  SPECTACLES

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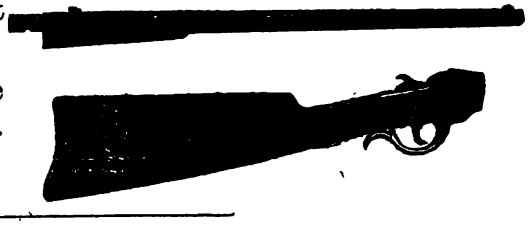

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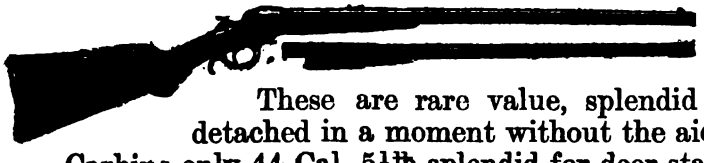

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